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CONTENTS.

ORIGINAL ARTICLES.

BENJ. F. BAER,
Danger of Delay in Pelvic Abscess. 1

JOHN B. ROBERTS,
Treatment of Internal Hemorrhoids. 8

J. ABBOTT CANTRELL,
Psoriasis and Syphilis. 14

J. T. CARPENTER, JR.
Burn of Conjunctiva from Calomel with Iodides. 17

CLINICAL NOTES.

B. ALEXANDER RANDALL,
Mastoid Abscess. 22

CURRENT LITERATURE.

Quinine Idiosyncrasies. H. C. Wood. 23
Typhoid Fever. J. C. Wilson . . 24
The License to Practice. Wm. Osler. 25
Heidenhain's Modified Micro-technical Methods. A. P. Ohlmacher. . . 26
Paralyses of the Eye Muscles. J. A. Jeffries. 27

BOOK NOTICES.

STEVENS, Practice of Medicine. . . 28
ADLER, Anal Fissure, and Fistula. . 29
BLAKISTON'S Visiting List. 30
FOSTER'S Medical Dictionary. . . . 30

ADVERTISEMENTS, cover page 2

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on slight provocation. The history of this case follows the rule, for it was not long after the recovery from the first illness until another attack occurred and she went through a similar course of disease. This was repeated over and over again during the intervening years, and the case ultimately came to be regarded by her physicians, for she went from one to another, as one of incurable pelvic abscess.

Two years ago she was advised to undergo an operation but was dissuaded on account of her low condition, and the fear that she would not recover. Under medication and change of air she improved, but two months ago she had another exacerbation of the symptoms. Since then she has shown evidence of rapid breaking down. In connection with the local pelvic trouble she has spells of the most violent vomiting. She also suffers frequently from erysipelas of the face, another evidence of her chronic septic state. To add to her already long train of serious symptoms it must be stated that she has metrorrhagia two weeks out of the four.

When I first saw the patient two weeks ago, examination revealed the uterus a little to the right of the centre of the pelvis, where it was firmly fixed and wedged by a tumor on either side of it, the whole forming one mass. The tumor on the left side filled that portion of the pelvis and extended into the left iliac region; it was very tender upon pressure, semi-fluctuating and firmly fixed. The mass to the right of the uterus was similar as to location and character, but it was smaller. The temperature at this time was 103°, and she had occasional rigors and sweating.

I made a diagnosis of double ovarian abscess with a fistulous track from the right tumor into the bowel. Operation was advised and was performed yesterday, as stated.

The intestines and omentum were found matted and closely adherent to the pelvic mass. The inner surface of the tumors lay in contact behind the uterus. Dissection was at once begun and by careful persistence the larger tumor was uncovered sufficiently for its character and relation to the adjacent parts to be revealed. It was firmly adherent to the entire posterior surface of the broad liga-

ment and to the bowel. A trocar was now plunged into it and pus of the most fetid character began to flow.

After the pus cavity had been emptied, irrigation with hot water was begun, some of the water being made to flow through the canula and into the cavity of the tumor. This diluted and washed away the remainder of the pus contained within it. The canula was now removed and the dissection continued. Finally, after probably fifteen minutes of continuous effort the tumor was separated. Many blood vessels were opened and hemorrhage was quite free. A ligature passed deeply through the broad ligament, and tied upwards around the tube close to the uterus, controlled the bleeding entirely. The tube was not removed because it was not diseased, and further, because it was so closely connected with the very vascular and hypertrophied broad ligament. The ligation, under the circumstances, was better than removal.

Irrigation was continued until the water returned clear, when attention was given to the tumor on the right side. This tumor was so deeply seated that the fingers could scarcely reach it, and it was extremely adherent. It was hidden from view by the broad ligament and the Fallopian tube which were stretched over it. My abdominal retractor served a good purpose here, for by hooking it over the tube and pulling the ligament aside the tumor was beautifully exposed to view. I then began by gradually working my finger through a thick, organized false membrane, when I inadvertently opened an abscess and pus of a very fetid character escaped. Irrigation was now again commenced, and after the pus was washed out the dissection was continued under continuous irrigation. I finally succeeded in shelling the tumor from its surroundings. A ligature was applied, as on the other side. This controlled the bleeding. The irrigation was continued until I was sure that neither pus nor blood-clot remained, and the abdomen was then closed without drainage.

The history of the patient now taking ether is very much

like the one related and may be told in a few words before we begin.

Case II.—She is thirty-nine years of age, married, several children, the youngest seventeen years. A number of years ago she had an attack of so-called inflammation of the bowels, but which, doubtless, was really inflammation in and around the right ovary. She never fully recovered from the first attack and has had a series of relapses since. The pain complained of was in the right ovarian region principally, and was intense and radiating in character. Each attack would last for a number of weeks, during which her temperature ranged from 100° to 104°. She would then gradually improve and be able to go about, only to be attacked again from some exciting cause. Recently she has been very ill with another seizure and now has constant pain in the right iliac and ovarian regions. She is emaciated and exhausted, and begs for relief by any possible means. Her menses are painful and the flow profuse.

Examination shows a tumor as large as a cocoanut and oval in shape occupying the right side of the pelvis and extending into the right iliac region. It is elastic and firm and gives a sense of obscure fluctuation. It is very tender upon pressure. The uterus is pushed slightly to the left, is somewhat enlarged and fixed to the tumor. There is no evidence of disease of the left appendages. As stated, I have made a diagnosis of probable abscess of the right ovary.

The patient has been in the Hospital two days and has been carefully prepared in accordance with my prescribed plan, with which you are more or less familiar. She has been etherized on the operating table, which I always prefer. I begin by making an incision about two inches in length low down in the hypogastrium. I incise the fascia at the side of the linea alba and then work my way to the peritoneum with the handle of the scalpel. Now picking up the peritoneum with a tenaculum I nick it with scissors and pass my finger within. The finger now elevates this

delicate membrane while I further incise it with the scissors. These two retractors are now placed and the contents of the cavity exposed. I find the omentum adherent to the abdominal wall and pelvic organs.

Separating this carefully with the finger the tumor is exposed to view and at once I begin to doubt the correctness of my diagnosis, for it presents the purplish, vascular appearance of fibroid tumor. On further dissection of the adhesions and closer examination, this vascular, glistening surface is found to be due to the peculiar relation of the broad ligament and Fallopian tube to the tumor. The hypertrophied tube and broad ligament are drawn tightly over the upper surface of an ovarian abscess entirely obscuring the latter from view until I draw these organs forward with a retractor. I am now enabled to show you the peculiar gray-white surface which is characteristic of ovarian abscess.

This relation of the broad ligament to the tumor is of peculiar interest because it is almost the identical counterpart of yesterday's case, just described. The tumor is closely adherent to the posterior surface of the broad ligament and right side of the uterus, as well as to the cæcum and tissues deep in the pelvis. Its position and surroundings make it appear as though it were located within the folds of the broad ligament; but this is only apparent, for, as I continue the dissection it is shown to occupy a position on the posterior surface, as stated above. The tumor is now partially severed from its attachments.

I next puncture it with this curved trocar for the purpose of reducing its size, and we see the pus flowing freely. The sac being now empty, I will adjust the irrigating nozzle to the canula and refill the pus cavity with warm water. By this means I repeatedly fill and empty the sac, and thus get rid of all danger from contamination of the tissues by contact with the pus.

The dissection is now carefully continued. The attachment of the tumor to the broad ligament, uterus and other tissues is so intimate and firm, that the greatest care and

deliberation, regardless of time, are necessary. Undue haste in a case of this character is a crime. I have now accomplished the entire separation of the tumor and you see there is no pedicle to ligate. This is because I have entirely separated it from the broad ligament and Fallopian tube. There is now a large, deep opening in the space from which it was removed, and there is considerable oozing from the raw surfaces.

The tube and broad ligament, although very large and vascular, are apparently healthy. I will simply pass a ligature deeply through the ligament and tie upwards close to the uterus. This controls the bleeding. The appendages on the left side are healthy and I will therefore not remove them. As the irrigating water returns clear I will simply sponge the cavity and close the abdomen without drainage.

Technique. Drainage.—A few words regarding the technique, especially with regard to drainage, and I will close. I have been teaching and writing against the unnecessary and excessive use of drainage in abdominal surgery for several years, and have practically demonstrated that better results may be obtained by a technique which omits the drainage tube in almost every instance.

Of my last two hundred celiotomies for the removal of ovarian and tubal disease, in which I include hysterectomies for uterine forbroids, the mortality has been less than two per cent. and I have used drainage in less than two per cent. of these cases. Nor did I refuse to operate in a single instance on account of the extreme condition of the patient or the size or character of the tumor, as these two cases indicate. My results were not as good when I used drainage more frequently, and of the three deaths in the series just mentioned I drained in two.

I do not charge the result, however, in these cases to the fact that I placed a drainage tube, but to delay and trifling with a disease which is as fatal as the sting of an adder, and which is less benevolent because it is more lingering and torturing. One of the patients, as you doubtless vividly

remember, was practically moribund from sepsis at the time of the operation. I merely made an incision emptying a sack of rotten pus, irrigated and placed a drainage tube with the hope that she might rally and recover sufficiently to endure completion of the operation later. She died, as we all anticipated, not as a result of the operation but of delay in its performance. It is the memory of experiences such as these which causes the surgeon to grow warm in discussing them.

In the first case I did not seek for the fistulous opening which had so long drained the abscess into the bowel, because I learned the lesson from a somewhat similar case, upon which I operated a few years ago, that the let-alone, non-meddlesome method is the best in such fistulous tracks; and I believe a drainage tube in this case would have had a tendency to irritate and interfere with the closure of the fistula. That at least was the result in the case referred to above, in which a fecal fistula formed and did not close for months.

There are some points of interest in the pathology of these cases, but I have not time to discuss them. The practical lesson which we should learn from them is the emphasis with which they teach the extreme folly of trusting to measures less radical than the removal of the incurably diseased organs; and the organs should always be regarded as incurably diseased when pus is present. The time to operate, as a rule, is during the first attack. If such a course had been pursued in these cases the patients would have been saved years of suffering and the additional danger of operation under the most unfavorable circumstances, when the risk to life is far greater.

[Each of the patients made a good recovery and went home within five weeks after the operation. The first case had an attack of erysipelas and was quite ill for several days in consequence, but otherwise her recovery was uninterrupted. In the second case the temperature did not rise above 99° and she sat up the thirteenth day.]

THE PATHOLOGY AND TREATMENT OF INTERNAL HEMORRHOIDS.[1]

By John B. Roberts, M. D.,

PROFESSOR OF ANATOMY AND SURGERY IN THE PHILADELPHIA POLYCLINIC, PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE.

This woman, who is about fifty years of age, has for a number of years suffered from attacks of hemorrhage from the bowels. She states that she has the condition called piles, which have at times caused her to lose from half a pint to a pint of blood while at stool. Her health has suffered on account of this drain as is seen by her pallid skin and her generally exhausted appearance. Upon examination made with my finger and by inspection I find just within the verge of the anus a number of small, soft tumors of bluish color. As they are within the verge of the anus, they are, of course, covered with mucous membrane.

Allied Conditions.—It is unfortunate that the term "hemorrhoids" is applied in such a careless manner to the several varieties of tumor found at the anus. Such want of accuracy tends to create confusion in the minds of doctor and patient as to the treatment to be followed in these different conditions.

The term "internal hemorrhoids" is properly applied to the condition from which this patient suffers, because the tumors are within the anus and are really vascular tumors resulting from dilatation of the hemorrhoidal vessels. An internal hemorrhoid is a vascular tumor or angeioma. The different condition called external hemorrhoids should be given some other name, which would be descriptive of its pathology; since the tumors are entirely different in their structure from those called internal hemorrhoids. A blood clot beneath the muco-cutaneous covering at the verge of the anus, due to thrombosis or clotting in one of the small veins or to inflammation (phlebitis) and subsequent clotting within such a sub-cutaneous vein, is the typical

[1] Clinical Lecture at the Polyclinic Hospital.

condition called external hemorrhoids. This affection might with propriety be called thrombotic hemorrhoids.

Occasionally an inflammation, which may be severe, attacks the muco-cutaneous folds outside of the anus and gives rise to a bearing-down sensation and to swelling. This is often called by patients "an attack of piles." This condition is simply inflammation of the muco-cutaneous structures at the anus, and is entirely distinct from the two forms of hemorrhoids just described. Oedematous hemorrhoids is a fairly good descriptive name for this disease.

Advertising quacks often apply the term itching piles to a pruriginous irritation about the anal aperture, and gain considerable reputation by their cure of what they call piles. Such cases are instances of pruritus of the anus and are not piles or hemorrhoids at all. The term "external piles" has also been used for the hypertrophic condition of the muco-cutaneous folds at the anus which gives rise to small tabs or pedunculated tumors. This hypertrophy is the result of previous attacks of inflammation such as have been mentioned above under the head of œdematous piles. When this cutaneous tissue or these tumors become inflamed, the symptoms are similar to those caused by inflammation of thrombotic piles or by œdematous piles.

The three forms of disease which are often called external hemorrhoids, namely, thrombotic and œdematous piles and hypertrophic growths, are entirely different from the condition from which this woman suffers. They are to be treated by external applications to relieve the inflammation, of which hot applications take the first rank. The thrombotic piles are also to be treated by laying open the tissues and turning out the clot. The hypertrophied skin and cellular tissue which form the tumor mentioned as the third variety, should be clipped away with the scissors and the wound treated on general surgical principles. Any hemorrhage which may occur, is not apt to be profuse and is controlled by pressure. This is efficacious and often done because, as the tumor is entirely outside the anus, there is no possibility of concealed bleeding occurring in the rectum.

Pathology.—The term "bleeding piles" is often used to designate the condition here shown you, because the vascular tumors become the seat of hemorrhage, when ulceration of the mucous membrane covering the enlarged vessels opens the caliber of one of the veins or small arteries. The tendency to hemorrhage is also increased by the fact that during defecation the spongy masses are forced through the anus, and by the pressure made upon them by the sphincter become greatly congested. This repeated congestion and the inflammation which arises therefrom causes increase of the connective tissue. Hence the tumor increases in bulk and becomes to a certain extent indurated.

Internal hemorrhoids are produced and the condition kept up by anything which increases the blood supply and venous congestion at the lower end of the rectum. Obstruction of the circulation in the portal system, pressure upon the pelvic vessels by an over-loaded colon or an abdominal tumor may have this effect. An enlarged prostate gland, stone in the bladder, stricture of the rectum and similar conditions producing straining at the stool, may be followed by internal hemorrhoids. I am unable to say what was the cause of the condition in this patient. It has been of so many years standing that it is difficult to reach the original source of the difficulty.

Treatment.—A careful diet and keeping the bowels regularly open will do much toward alleviating, or even curing mild forms of this disease. When, however, the vessels have been dilated for years, it is usually necessary for a surgical operation to be done to remove the vascular growths and thereby prevent the frequent hemorrhages which destroy the patient's health.

Palliative treatment consists in regulating the bowels, and avoiding excess of alcoholic stimulus and food which tends to overload the large intestine and produce constipation. Compound licorice powder, confection of senna and similar laxatives are valuable. Mild astringent ointments containing tannic acid or galls may be valuable. Ointments containing belladonna, stramonium or iodoform also are

serviceable. Suppositories of glycerin are not without value by reason of their laxative effect and local action. When the tumors are actively inflamed, an enema of five or ten drops of tincture of opium and a little starch water will give comfort. Hot water fomentations should be applied to the anus and the bowels slightly moved by mild aperients. If the hemorrhoidal tumors have been protruded and are strangulated by the sphincter they must be pushed back into the rectum, perhaps under ether-anesthesia. This proceeding may be accompanied by dilatation of the sphincter muscle if this is necessary to accomplish the object.

Operative Treatment.—Mild cases of internal hemorrhoids, which seem to demand operative relief, may be benefited or even cured by simple dilatation of the anal sphincter by the fingers of the surgeon. This operation is done under anesthesia and is like that used in the case of anal fissure. Occasionally we treat small internal hemorrhoids by injections of carbolic acid into the tumors by means of a hypodermic syringe. This treatment does not require the patient to go to bed, and is sometimes available in cases of moderate disease where confinement to the house for ten days is impossible. A solution of carbolic acid, made with thirty grains of the acid, a fluid drachm of water and a fluid drachm of glycerin, may be used. The solution should be deposited in the center of the tumor, not close to the surface. In doing this operation it is perhaps well to grasp the base of the tumor with forceps before injecting, in order that the clot formed by the injection of carbolic acid may not be washed into the circulation as an embolus. I do not know that this is essential, but I have always felt it safe to practice.

Of the various operations proposed for the radical cure of severe cases of hemorrhoidal disease I prefer excision and cauterization, after the application of a clamp. This is the treatment you see me now using for this woman. As a preparation for such operation, a laxative should be given the previous night, and the lower bowel well emptied by an

injection of soap suds a few hours before the time fixed for the operation. The patient is then placed in the lithotomy position, or upon the left side; the latter is the posture which I usually adopt. After etherization, the first step is to thoroughly dilate the sphincter with my thumbs. Then a portion of the hemorrhoidal tissue and prolapsed mucous membrane is drawn down with forceps and the clamp, consisting of two blades of ivory protected with steel strips, applied to the base of the mass. The blades are well screwed together to prevent hemorrhage when the portion of the tumor projecting above the blades is cut away with the scissors. I now trim away all of the tumor except a stump about $\frac{1}{4}$ of an inch high, which is allowed to remain that there may be some tissue to sear with the hot iron. As you see in the present case, the hot iron chars the tissue and prevents the hemorrhage, which would occur after the removal of the clamp if the stump was not left for the application of the cautery iron. A dull, red heat is what is required to produce the necessary searing with the iron, as a white heat cuts the tissue almost like a knife, and does not seal the ends of the opened vessels. You see at this point, where the clamp has not caught the tissue properly, there is some little danger of bleeding because the stump has slipped away from the clamp blades and prevented the proper burning with the iron. I grasp it again and apply the iron. As soon as the stump is thoroughly cauterized the clamp is removed, and the shortened stump with its seared surface is allowed to slip into the rectum. The other masses or tumors are treated in a similar manner until all of the redundant mucous membrane and hemorrhoidal tissue is removed.

In performing this operation it is necessary to be careful not to include the skin within the clamp. If the skin is caught and cauterized in this manner there is, I think, a tendency to cicatricial contraction of the structures at the verge of the anus, leading perhaps to anal stricture. There is small danger, however, of this if one simply removes the vascular tumors and mucous membrane within the verge of the anus. Contraction to cause stricture is hardly possible

under such circumstances because we do not involve the whole of the wall of the bowel, but cut off and burn simply the mucous membrane and sub-mucous tissue. I usually apply the clamp so that the lines of cauterization radiate from an imaginary point in the middle of the caliber of the gut, though I do not know that this is essential.

I prefer this method to the older one of ligating the hemorrhoids, because by it the tumors are not at once removed. There is a mass of sloughing tissue left within the grasp of the ligature, which it seems to me is an unsurgical method of dealing with these tumors. The method by the clamp and cautery effectually gets rid of the disease, prevents bleeding, and leaves a burned surface which is aseptic.

After Treatment.—After the operation I have the rectum gently washed with warm water introduced by means of a syringe twice a day, and I have a mild laxative administered to avoid the locking up of the bowels, which is liable to occur. In my opinion it is better to move the bowels every day than to permit hard masses to accumulate in the rectum. An enema will be given every other day to empty the large bowel. This, added to the laxative treatment and tonic ordered, ought to be all that is required in the after care of the patient. To this woman I shall give a pill of iron, quinine and aloine, and the enema every other day.

Occasionally, but not often, it is necessary to catheterize the patient for a day or two after operation but this is I believe, much more uncommon after excision and cauterization than after ligation. In many cases the patient is not required to remain in bed for more than five days, and he may leave the house in ten days. This time varies, however, with the character of the patient's nervous system, and the amount of excision and cauterization necessary.

Dissecting out the hemorrhoidal tissue, after incision along the margin of the anus, and stitching the mucous membrane back into its former position, after the removal of the tumors, is an operation adopted by some surgeons. It seems to me to be a prolonged operation; the blood lost is

greater in amount than in the operation just shown you, and it is more difficult to do neatly than the clamp and cautery method. I am inclined to think that it is not superior to the cautery.

If the operator has not a hemorrhoidal clamp, it is very easy to substitute some form of forceps which will firmly hold the hemorrhoid while excision and cauterization is being done. I have done the operation with instruments obtained from an ordinary hardware stone, and used a poker or a tinker's soldering iron for a cautery.

On one occasion I have had secondary hemorrhage take place, which was easily stopped by packing the rectum with gauze for forty hours. This accident is very unusual, and in the case mentioned was probably due to hardened feces being voided, which tore away the eschar made by the cautery. Such a complication would, I am inclined to believe, occur after ligation as frequently, if not more often, than after cauterization.

PSORIASIS AND SYPHILIS.[1]

By J. Abbott Cantrell, M. D.,

ADJUNCT PROFESSOR OF DISEASES OF THE SKIN IN THE PHILADELPHIA POLYCLINIC, DERMATOLOGIST TO THE PHILADELPHIA HOSPITAL.

After having witnessed many mistakes in the diagnosis of the two affections, psoriasis and syphilis, I have decided to make the differential diagnosis of these affections, as we see them manifested upon the skin, the subject of my remarks this evening. I have here cases of each, giving you visual examples of the affections, as well as the ease with which you may distinguish one from the other after studying several features which are prominent in each.

It is, of course, well understood to-day that syphilis is caused by a specific virus, the entrance of that virus into the system occurring only after certain conditions are fulfilled, viz.: that of coming into contact with one who has previously met and contracted the poison, so that the virus enters and

[1] A Clinical Lecture.

passes through the system, occasioning such symptoms as should be constantly in the mind of the practitioner of medicine. I refer to the initial lesion, or the chancre, the infiltration and enlargement of the glands, and the subsequent manifestation of its presence by the roseola (which does not concern us this evening) and the appearance of papules, covered or not with a desquamating epithelium.

As to the appearance of one of these affections upon the skin, I show you a man 24 years of age, who first noticed this rash upon his body, arms and legs about three days ago, he being frightened is what brings him before us, as other than the appearance upon the skin, he knows nothing of it, as there is no itching and no pain. The lesions are symmetrical, discrete and well defined, there being no coalescence of them, and consequently no patches; the lesions are all covered with a dark desquamating epithelium.

When a man presents himself before you with a rash of this kind you necessarily think of both psoriasis and syphilis; and while at times they may both have the same appearance upon the skin, there are other symptoms with which a diagnosis may be made.

In the case before us, the lesions are symmetrical, they are general, discrete, and being all of one stage of development, they are the size of a half pea. In a psoriasis the lesions may be found in different stages of development, showing an old and large lesion here, and a new and small one there. The spots are covered with a darkish flattened scale and this on being removed shows a dark brownish color of the skin. In a psoriasis the scales are imbricated and mother-of-pearl or silvery-white in color, and upon removal show a lightish red color of the skin and some spots of exuding blood. The lesions in both diseases are sharply defined—and often times as in this case, you must go further than the appearance of the skin, examining for the initial lesion. I find here a suspicious scar, which is evidently a healed initial lesion, as no other disease, unless a traumatic disturbance, leaves a scar here. I suppose you notice that I myself looked for a sore, not

having asked for it, simply because the answer to that question may be misleading and may prejudice one in favor of one disease or the other.

Often the lesion may have been a herpes as well as the chancre, and may have been diagnosed incorrectly even by a good practitioner. Examining further into this case we find a chain of enlarged glands in either inguinal region, also in the cervical region and in the epitrochlear space. These enlargements are not found in a psoriasis; consequently without reference to any more symptoms in this case we can safely conclude that we have a syphiloderm.

In case number two, a man 40 years of age complains of an eruption on the head alone, in the hairy scalp, these spots he says have existed for about four months; he has had previous attacks, over the body, but never before in this region. These spots you notice are covered with a crust, dark in color, which has continued forming and is now somewhat raised above the surface, and as these conditions are often witnessed in both of the affections to which I referred, we must necessarily study this carefully before coming to a positive diagnosis.

Syphilis affecting this region and having the characters seen here, shows you that the lesions are the later ones; the crusts are conoidal, the point being at the top and widening out toward the base, which here is distinctly broad. On removing this crust, it is found to be well made and holds together, and the parts underneath are shown to be a cavity filled with pus, the edges somewhat undermined. While in psoriasis, the color of the pyramid would be lightish or gray, it would be seen as if one scale was put upon the other, in fact imbricated, not being conoidal, being somewhat flattened upon the summit; this scale upon removal would be found somewhat brittle, and the surface underneath would be reddish, with minute drops of blood, but no cavity, the skin being on a level with the surrounded unaffected skin. And in additon, we would likely find lesions scattered here and there on the body, not scars, of previously existing lesions as in this case. The lesions of psoriasis when

upon the scalp generally affect the region along the edges of the hair as well as the parts beneath it; and here they are generally of a violent red and covered with its peculiar scale.

The general health of the patient may suffer no inconvenience in psoriasis, while in a syphilis, without treatment, the man would certainly sink under its influence; the hair would generally fall out, as in the case before us, while in a psoriasis, the hair may only slightly show this influence. In this case I doubted whether we would find any enlargements of the glands; and as I thought, there are not any; these are seldom found in the later syphiloderms.

In the two remaining cases, which I purposely show you together, we find that the outbreak in both is general; in this man, the disease has existed previously, having gotten well under my care some four years ago, and now he returns with the disease, if I remember correctly, worse than before. He is 22 years of age, the eruption having existed at this attack about six months, his being out in the country and not able to attend to himself has allowed the disease to reach the proportion seen; we have lesions here the size of a pea, and some larger ones, and here and there some that have coalesced; the whole of the diseased portion is covered with silvery-white imbricated scales, resembling the shingles of a roof. We notice that the lesions are at different stages of development; here we see a lesion size of a pin head, which was noticed yesterday, while over here we see a collection of lesions forming a patch; he complains of severe itching; the lesions all have a distinctly marked border, in fact somewhat raised. Examining as in the previous case, we find a coalescence of the lesions, a fact not noticed in the previous case; we find no glandular enlargement, the man being in good health, weighing about 15 lbs. more than when attacked. I think all can see, without further questioning, that we have here a psoriasis.

This man, 22 years of age, has had the disease since 12 years of age, has never been entirely free from it. He is in

good health otherwise. I distinctly remember when I first saw him, when 16 years of age, he had a slight outbreak, for which the usual remedies were ordered, and from time to time during the past six years, he has appeared at the clinic. Each time I found that the disease was worse, and when he appeared before me this evening, I found that the body had very few healthy portions, the eruption is nearly universal. Stripping him of his clothing, we find over the chest and back, large lesions, which cover these regions in their entirety. We see others on the legs and thighs, also these large lesions on the scalp and around the border of the hair, all covered with the peculiar silvery-white scale. We notice that the lesions are well defined, somewhat raised and abrupt, there is considerable itching which often totally unfits him for work. No one would say that this case was syphilitic, because we have lesions large in size, showing that a number of smaller ones have coalesced to form them, it has the silvery-white imbricated scale, he has never been free from it since first seen, there is no glandular infiltration; while in a syphilitic the lesions would have been of one size, the scale would be a flattened one, dark in color, no itching or if present only slight, there would be glandular swellings, and if a syphilitic and lasting as long as this disease has existed, we could find scars of previous lesions as well, or certainly great destruction of tissue, if not life.

Referring to a cause for psoriasis, I find myself entirely at a loss to ascribe one, and why the disease should attack one in good health as frequently as it does one in bad health, I also cannot understand. But whether from a known cause or not, the disease is perfectly harmless and causes no disturbance, except the disfigurement of the skin, and the consequent itching.

SEVERE BURN OF THE CONJUNCTIVA BY THE INSTILLATION OF CALOMEL WHILE GIVINIG POTASSIUM IODIDE INTERNALLY.

By J. T. Carpenter, Jr., M. D.,

INSTRUCTOR IN DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC, ASSISTANT SURGEON TO WILLS EYE HOSPITAL.

In not a few cases of ocular disease which we are called upon to treat, the local conditions demand instillation of the mild chloride of mercury. At the same time, the underlying dyscrasia of the patient which is present and has a distinct causative relation to the ocular trouble, calls for the exhibition of powerful alterative drugs—such as iodine, or its salts, with potassium or iron. Now, it is in just such cases that we must be on our guard and observe the caution never to give iodides internally and at the same time instil calomel into the conjunctival sac. Each has its uses, and both seem to be indicated in certain scrofulous diseases of the eye; but one experience will be sufficient to impress upon one's mind the fact that they must never be employed simultaneously.

Though mention is made of this in some text-books, it seems to me that sufficient stress has not been placed upon the fact. It is to illustrate the unpleasant effects following the neglect of this caution that I report two cases of severe burn of the conjunctiva which, curiously enough, occurred the same day—one at the dispensary of the Polyclinic Hospital, and the second in my own practice.

In the latter case the patient had been ordered two or three months previous to this, an alterative mixture containing potassium iodide and bichloride of mercury. She had progressing lenticular opacity and had been given this alterative for her general condition. It seems she thought its tonic effects so marked, that without mentioning the fact to me, she had taken her bottle, had it refilled, and had taken it for a week or ten days before consulting me for a catarrhal conjunctivitis of a follicular nature. I was not careful to inquire whether or not she was taking any form

of iodides, and instilled calomel into the lower conjunctival cul-de-sac and sent her on her way rejoicing.

Once before, early in my professional career, do I remember a similar piece of carelessness that forever impressed upon my memory the importance of asking the time-honored question, "have you any false teeth," before administering ether. The patient whom I was anesthetizing stopped breathing and became cyanosed. I opened her mouth and was alarmed to find toothless gums. Before I could get down her throat, as I wished to do in my anxiety, the nurse who had—with more judgment than I had exhibited—removed the teeth before the ether was started, quieted my fears by showing them to me. After that I felt like inquiring of the mothers of innocent babes, if their children wore false teeth. So in regard to calomel, I never instil it in *any case* without asking if the patient is taking medicine. But to return to our cases.

W. B., a man aged 40, applied at the Eye Dispensary for a severe inflammation of his eyes, which he said had come on suddenly and which he attributed to some white powder, like lime, which a doctor had flicked into his eyes with a camel's hair brush. He had suffered from a slight conjunctivitis and sought relief at a time when he was also taking iodides for enlarged cervical lymphatics. The same day his eye burned and the pain was severe.

He came to the dispensary next morning when the condition noted was similar to that caused by any severe caustic coming into contact with the ocular mucous membrane. The lower cul-de-sac showed shreds of mucous membrane that had separated, the ocular and palpebral conjunctiva were intensely injected and a muco-purulent discharge was present in considerable amount. He was then suffering severe pain, and the pupil was small and the iris somewhat sluggish in its movements. In short, there was a severe traumatic conjunctivitis with some indication of iritic complication. The conjunctival sac was freely washed out with boric acid solution, cocaine instilled and vaseline

applied to the raw conjunctival surfaces. The patient experienced complete relief in a short time.

By a strange coincidence, I found, on my return to my office, the patient in whose eyes I had instilled calomel the day before. In her case the results were much more severe. There was œdema of the lids, extending well down upon the malar prominence. The eyes were nearly closed and on separating the lids, the conjunctiva around the cornea was raised and filled with a serous fluid. The palpebral conjunctiva suffered most severely, especially well back in the retro-tarsal folds, and the patient's mental condition was one to be remembered.

I first tried to assure her that it was nothing at all alarming, and after washing out shreds of conjunctival tissue which had sloughed, cocaine was instilled and vaseline used to keep the raw conjunctival surfaces from coming into contact. In a week's time the inflammatory symptoms were subdued, and later the conjunctiva showed no trace of the follicular condition for which I was treating her. This unexpected result had much to do with my continuing in her good graces.

These cases show that although no permanent damage was done, the inflammatory reaction in each case was severe and caused a muco-purulent conjunctivitis, accompanied by chemosis and œdema of the lids with great suffering.

The iodide is excreted by means of the tears amd when calomel is instilled into the conjunctival sac, biniodide of mercury is formed which is a severe caustic. It is in a large clinical service that this mistake is most likely to occur, where, owing to the number of cases and the short time in which to treat them, inquiries as to what medicine is being taken are apt to be neglected, but my second case shows that it can occur in one's private practice. Certain it is, that the caution is a practical one; *do not use calomel where iodine or iodides are being administered.*

Clinical Notes.

Acute Mastoid Abscess.—The patient, a boy, sixteen months old, had coryza, followed by pain in the right ear, shortly followed by a discharge. The ear continued to pain, and, on the third day, a swelling above and behind the ear was noticed. Three days after the swelling began, the child was brought to the clinic. The swelling above and behind pressed the auricle downward and forward, and fluctuation was clearly felt over the mastoid antrum. The upper flaccid portion of the drumhead was markedly bulging. A perforation in this portion of the drum was enlarged by incision, although a muco-purulent discharge had been escaping copiously. Hot douches for the canal and poultices to the mastoid, at frequent intervals, were ordered, with purgatives.

After twenty-four hours, the swelling had increased, and, fluctuation being now marked, operation was decided upon.

An incision was made down to the periosteum, evacuating one dram of pus from the surface of the bone. An area of bare bone, one centimetre in diameter was found, and, in the lower part of this, a pin-hole sinus leading into the antrum. The sinus was enlarged with the spoon, emptying the antrum of pus and flabby granulations. Upon syringing the sinus, the fluid passed freely out into the external canal.

The method of after-treatment recommended by Dr. Blake, of Boston, was attempted, the wound being allowed to fill with clot after the removal of all recognizably pathological tissue; the clot was then scalded with sterilized water, and the wound closed over it with silk sutures. A dry dressing was used on the surface. The canal being free, and the eustachian tube patulous, two avenues of drainage were left. Re-dressing, after twenty-four hours, showed some pus escaping through the lower angle of the wound.

Experience has shown that prompt union by first intention can be obtained without any drawbacks. Such a result would naturally be much superior to long-continued packing and irrigation.

This case well illustrates a condition by no means rare, yet often neglected. Under vigorous hot applications, resolution is often obtained, and where it fails, delay in evacuating any pus collection simply invites further extension of the process so dangerously destructive. Healing is usually prompt if the condition of the patient is moderately good; if not, prompt and vigorous tonic measures, among which inunctions of cod-liver oil deserve trial, are called for to increase the recuperative power.

In the last similar case treated in the clinic, the conditions had been neglected until the whole mastoid process and the overlying soft tissues were penetrated by numerous sinuses, and now, a month after the operation, the healing, which has several times been almost complete, is still imperfect by reason of the breaking down of the cicatrices which had formed.

B. Alexander Randall.

Current Literature.

Quinine Idiosyncrasies.—Prof. H. C. Wood (*University Medical Magazine*) reports the case of a woman aged twenty-five, for whom he prescribed quinine. She had been poisoned twice by this substance in Europe, but agreed to take one 2-grain pill, which she did about five o'clock in the afternoon. About six o'clock she was taken with a burning pain in the hands, which spread over the arms and finally to the whole surface of the body, until she was tingling and burning everywhere.

About half-past six, a severe pain in the stomach set in, followed shortly by vomiting. A few minutes later she fainted, remaining unconscious for five minutes. At 6.45 her whole surface was much swollen—brilliant red in color, with urticaria in wheals and long ridges. The pulse was between 50 and 60, and very feeble. Vomiting had occurred several times, and there had been one loose passage. The temperature was 102½; the day before, at the same hour, it had been 99½.

There was a good deal of nervous excitement and unrest, but no delirium and no hysteria. Opium was given by injection, and brandy freely by the mouth. After this, vomiting recurred several times, large quantities of greenish fluid being rejected; there were also one or two alarming fainting spells.

A little after seven o'clock, the symptoms began to subside, and, in about five hours the patient returned to her normal condition.

This case is made the more interesting by the fact that a brother of the patient had, on at least two occasions, similar symptoms provoked by quinine. Careful investigation failed, however, to get any trace of the idiosyncrasy in past generations.

Dr. Wood has met with many people in whom cinchona alkaloids produced marked gastro-intestinal irritation, so that he considers chronic diarrhœa or gastro-intestinal catarrh important contra-indications to the use of the drug. He also cautions against the administration of quinine in cystitis or conditions allied to it, owing to the irritating effect which this drug often produces at its point of exit from the body.

Treatment of Typhoid Fever by Systematic Cold Bathing.—Prof. J. C. Wilson (*Medical News*) describes the treatment of typhoid fever after the method of Brand, and gives a further report of the results obtained by this method in the German Hospital, Philadelphia.

"The method consists in the following systematic procedure: Whenever the temperature, taken in the rectum, reaches 102.2° F. (39° C.), the patient is placed in a bath of 65° F. A compress, wet with water about five degrees lower, is placed upon the head, or water at a lower temperature is poured upon the head and shoulders. The patient remains in the bath fifteen minutes, during which time he is systematically rubbed by the attendants, and encouraged to rub himself.

"At the expiration of that time, he is removed from the

bath, and wrapped in a coarse linen sheet, over which a blanket is folded, the extremities being thoroughly dried and rubbed. A little wine or spirits is then given. This is repeated every three hours, unless the temperature remains below 102.2° F. The alimentation is liquid, nutritious and carefully regulated. No drugs are administered."

The total number of cases treated by this method was 226, the total deaths 12–5.3 per cent. Relapses occurred in 19 instances; more than one relapse occurred in 2 cases.

This method of treatment has reduced the death rate in this institution nearly 50 per cent. from the best showing of previous years, and 66 per cent from the most favorable statistics of the hospitals of the city under other methods.

License to Practice.—Prof Osler, in an address delivered before the Minnesota Academy of Medicine, says (*Northwestern Lancet*): "The United States is the only country in the world which commits the mistake of thinking that the doctorate should carry with it the license to practice. It never should. Canada has the best plan of all. There the medical profession manages its own affairs. Each province is divided into districts. In these districts representatives of the profession, to the number of forty, are chosen or elected by the physicians, and they constitute a board of control over medical matters which absolutely determines the question of license to practice. This body appoints an examining board, before which, all applicants to practice in the district, whatever diploma they hold, must come. This board may include members of teaching faculties, but no teacher can examine a candidate upon his own branch of instruction.

"Difficulties have, of course, been encountered in the development of this plan. The first came when the homœpaths demanded representation on the boards. This was bitterly opposed, but the Legislature refused to grant any privilege in which all schools did not have an opportunity to share. I do not think that this issue with the homœpathic school is a real one to-day. Men are brimful

of prejudices. But, after all, the homœpaths only differ from the regulars in therapeutics. There is no homœpathic anatomy or physiology; no homœpathic surgery; no homœpathic midwifery; no homœpathic pathology; no homœpathic practice; there is only in therapeutics a special difference, and I do not differ more from my erring homœpathic brethren in the matter of therapeutics than I do from many of my regular brethren, who write shot-gun prescriptions a yard long, and fire them indiscriminately at their suffering patients. The way to sift out any medical error is to pass all candidates through the same portals of the profession. Mistakes will be minimized when men are taught alike in the essentials of anatomy, physiology, and pathology."

Heidenhain's Modified Micro-Technical Methods.—Prof. A. P. Ohlmacher (*Medical News*) describes Heidenhain's method of preparing animal tissue for study. The process consists in fixing in corrosive sublimate, dehydrating in alcohol, clearing in bergamot oil, and imbedding in paraffin.

The fixing solution is made by saturating a ½ per cent. solution of common salt in distilled water, with corrosive sublimate. The solution should be supersaturated with sublimate. Cubes of tissue, three-eights of an inch on the edge, are dropped in some of this solution. A half hour's to an hour's immersion is sufficient for perfect fixation. The object is then brought directly into 95 per cent. alcohol. After twenty-four hours the tissue is ready for cleaning, for which bergamot oil is used. The object remains in this from two to twenty-four hours, according to size, when it is removed to a bath of equal parts of soft paraffin and bergamot oil, kept at the melting point, then to paraffin which melts at 45° C., where it remains from one to two hours. The object is now removed to paraffin, which melts at 58° C.; after remaining from one to two hours, it is finally imbedded. The sections are now cut with the microtome, and fixed upon the slide by the modified method of Gulland. A drop of water is placed on the slide over the

surface to be occupied by the section. The slide is then warmed but kept below the melting point of the paraffin in which the object is imbedded. The section is placed on the drop of water, where it at once flattens perfectly. The excess of water is removed by blotting-paper. The slide is kept warm until the water has evaporated. The paraffin surrounding the section is then cautiously melted. The slide is placed in xylol or benzine to remove paraffin, and is then placed in 95 per cent. alcohol, where it remains from an hour and a half to six hours. The sections are now treated with pure tincture of iodine in order to remove the excess of corrosive sublimate. The tincture is allowed to act for about fifteen minutes; the slide is then placed in 95 per cent. alcohol, where it remains until no more iodine dissolves out of the section, which is then ready for the stain.

The sublimate fixing solution is spoiled by contact with metallic substances, and tissue fixed in it becomes brittle if kept long in alcohol. These disadvantages may be overcome by using glass or wooden rods for transferring objects to and from the solution, and by imbedding early.

Eye Paralyses.—Dr. John Amory Jefferies (*Boston Medical and Surgical Journal*) gives the following summary concerning eye paralyses:

1. All cases of lateral conjugate paralysis are of central origin.

2. When the paralysis is on the same side as other paralyses, the lesion is on the opposite side of the brain. Such paralyses, as a rule, are transitory, and follow almost any sudden lesion, and often only show themselves as a prevailing position of the eye, and not as a true paralysis or even paresis.

3. When the paralysis is crossed with the paralyses below the lesion is in the pons-medulla region.

The above generalizations are equally true of spasm.

4. A gradual development of conjugate paralysis clearly points to the region of the sixth nucleus of the same side.

5. Paralysis of up or down motions, or both motions, indi-

cate disease in the region of the corpora quadrigemina, but may be due to disease in the third nerves proper, at the point of exit.

6. Reasoning from analogy, paralysis of convergence points to disease in the central gray matter, below the aqueduct, but, as yet, autopsies are lacking.

7. Picked paralysis of parts of a third nerve, strongly suggest central disease, but is not proof of it.

8. A majority of the cases of eye paralysis occur in the syphilitic.

9. A paralysis which changes rapidly, the muscles quickly showing fatigue, is probably central in origin.

10. Transitory paralysis in the syphilitic is strongly suggestive of future tabes.

11. An eye paralysis, however simple it may seem, is always a just cause for suspicion of trouble to come, and demands a prompt and thorough examination of the patient.

12. There is no evidence that there is any form of connection between the sixth nucleus and the third, except in the cerebrum.

Book Notices.

A MANUAL OF THE PRACTICE OF MEDICINE. Prepared especially for Students. 12 mo.; pages, 501; illustrated. By A. A. STEVENS, A.M., M.D. Philadelphia: W. B. Saunders, 1892.

The same qualities which have made Dr. Stevens a peculiarly successful teacher of medical students, render him especially able to write a book of the nature of the one before us. It is an effort to present clearly and concisely, and in small compass, the most important facts regarding the recognition and treatment of disease.

In addition to the usual brief descriptions of the individual diseases, the book possesses a valuable feature in the sections on general symptomatology. Thus, for example, preceding the description of the different diseases of the respiratory system is a brief account of the indications of such

symptoms as epistaxis, movement of the alæ nasi, dyspnœa, aphonia, cough, etc. The author's experience clearly has shown him that it is much easier for the student to detail the symptoms of a given disease, than it is to analyze a certain symptom, and explain what diseases may present it.

The book covers the subjects ordinarily coming under "medicine," including diseases of the skin and of the nervous system, although mental affections are, for the most part, omitted. We notice some errors and omissions, but few.

We can heartily recommend the work to those desiring one of this class. As the author says, in his preface, the contents are presented in an "assimilable" form. We would call attention, in this connection, to the statement made by some investigators that the constant administration of predigested food soon takes away the power of the stomach to do its own digesting. We think a similar danger to the mind may attend the employment of the condensed mental pap so freely administered to students now-a-days..

J. P. Crozer Griffith.

FISSURE OF THE ANUS, AND FISTULA IN ANO. By Lewis H. Adler, Jr., M. D., Instructor in Diseases of the Rectum in the Philadelphia Polyclinic and College for Graduates in Medicine. 16 mo., pp. 78, with 47 illustrations. Detroit: George S. Davis, 1892.

In this attractive brochure, the writer has given a sound and eminently practical review of two subjects that have an ever increasing interest for both surgeon and general practitioner. The amount of unwholesome work—at times too much, and, at others, too little—that this particular region of the body has been subjected to, is certainly still an opprobrium of our art. To those who are on the outlook for better methods and authoritative advice in the treatment of the disorders dealt with in this volume, it is commended with confidence that in following its precepts they will be guided to the best results.

T. S. K. M.

THE PHYSICIAN'S VISITING-LIST FOR 1893. P. Blakiston, Son & Co.

This visiting-list is now in the forty-second year of its existence. It is issued in several forms—either with dates for from twenty-five to one hundred patients a week, the names of the patients being written weekly, or so arranged that the patient's name is recorded but once a month, or in the form of a "perpetual edition," without dates.

It contains tables of doses of the newer remedies, of poisons and their antidotes, brief descriptions of the diagnosis and treatment of the simpler superficial diseases of the eye, and the methods for urine examinations, and tables for the differential diagnosis of the forms of Bright's disease, the period of uterine gestation, the diagnosis of the eruptive fevers, etc. We can, from personal experience with it, heartily recommend this visiting list. J. P. C. G.

ILLUSTRATED ENCYCLOPÆDIC MEDICAL DICTIONARY. By FRANK P. FOSTER, M. D. Part 10; pages 2321 to 2620. New York: D. Appleton & Co., 1893.

This great work goes steadily forward, though perhaps not at the rate for which the agents may have led subscribers to hope. Part 10 carries it from "Minnequa Spring" to "Pompholyx." Some idea of the immensity of the undertaking is gained by considering that under the one word "operation," are descriptions of several hundred distinct operative procedures, occupying about ten of the closely printed double-column quarto pages. Under "ophthalmoscope," more than fifty different forms of the instrument are described, and two are figured. The "ophthalmometer" gets comparatively little space, and the form of Javal and Schiotz but three lines, with a cut of the original model; and no mention of the later model, or the great New York surgeon who discovered and kindly explained its value to his American brethren. We look to the *New York Medical Journal* and its brilliant correspondents to make due reparation.

But, seriously, in this literary period of the dictionary, the bibliography, the encyclopædia and the index catalogue, this work stands pre-eminent, and for its splendid execution the medical profession owe Foster and his collaborators and the Appletons grateful appreciation and substantial support.

E. J.

A Special Week at the Polyclinic.—Probably every hysician in established practice, removed from medical centers, wishes that he could get away from his own round of patients and watch for a little time the practice of others.

But if he is not changing his location, or taking up some specialty, independent of practice, or at least very happily situated in having a colleague to place in charge, the difficulty of leaving his work for even a month or two without seriously disorganizing it, is almost insurmountable.

Cannot the Polyclinic do something to offer its advantages to medical practitioners without requiring them to break up their arrangements and sacrifice the work of years to secure it? This is the question that the Philadelphia Polyclinic tried to answer by arranging A Special Week in Ophthalmology, from December 15th to 22nd.

The response to this attempt has been most gratifying. Less than two weeks' notice brought together as large a class as could well profit by the direct clinical work offered, and letters of regret showed great interest on the part of many who could not come at the time arranged.

The plan announced was closely followed throughout. The regular clinics were held at the Polyclinc and other hospitals; lectures and demonstrations were given on subjects of current interest to Ophthalmologists, and most of the evenings were devoted to "conferences" participated in by the class and the teaching and clinical staff of the institution. These latter, undertaken rather experimentally, proved of great interest.

So marked was its success that it may already be said that the "special week" is something that has come to stay. It will in no way supersede the courses the Polyclinic has heretofore given, but will extend the facilities of the institution to a much larger part of the profession otherwise unable to profit by them.

The next *Special Week in Ophthalmology* will begin October 9th, and similar weeks in other branches are being arranged and will be announced later. Those interested should write to the Secretary stating the branch desired, that Special announcements may be sent them as issued.

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THE

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PRACTICAL DETAILS IN THE PREPARATION OF PLASTER OF PARIS BANDAGES.[1]

BY H. AUGUSTUS WILSON, M. D.,

PROFESSOR OF GENERAL AND ORTHOPEDIC SURGERY IN THE PHILADELPHIA POLYCLINIC; CLINICAL PROFESSOR OF ORTHOPEDIC SURGERY IN THE JEFFERSON MEDICAL COLLEGE.

I want, this evening, to make a practical demonstration of the proper method of preparing and using the plaster of Paris bandage, that you may all clearly understand the necessity for observing the petty details upon which the successful use of the plaster of Paris depends. This method of making impromptu splints, or apparatus, to hold any part of the body in an immovable position, is now of such a common use that it is only its supposed disadvantages that prevent its more extended employment. It is often stated that plaster of Paris was not used in a certain instance, or could not be used because, first, it was such a dirty proceeding, and second, because it required so long a time for the plaster to set, that the parts were apt to get out of position while it was hardening, and third, that it would crumble and break instead of remaining firm. All these disadvantages can be, and should be, avoided, by careful attention to the details in the preparation, and in the application. Therefore we will begin at the beginning and speak of the materials to be used.

[1] An evening lecture delivered at the Polyclinic Hospital. This will be followed by a similar paper on the application of such bandages.

Plaster of Paris is gypsum which has had the water of crystallization driven out of it by heat, and then ground into a fine powder. It possesses a strong affinity to again take up this water of crystallization, from whatever sources it can, and resume its former condition as a stone. This water of crystallization may be absorbed from moist dressings, or from the atmosphere, and it not infrequently occurs that bandages that are perfect in appearance, are thoroughly useless because of the long time that has elapsed since they were made, during which time the plaster has absorbed moisture from the atmosphere.

The method of testing the quality of plaster of Paris is by taking a small pinch of the powder between the thumb and finger and gently rubbing it; if small particles of grit are felt, it indicates that parts of the plaster have already absorbed water, and it is therefore unfit for use. The same test may be observed by taking a pinch of the powder again and placing the fingers under water, and then rubbing in the same way as before. If, however, in both of these tests no grit is felt, and, under water, a thin creamy substance is formed, which is easily rubbed off the fingers, the plaster is in a proper condition for use. Where plaster has been kept for a long time, or where it is gritty, its condition can be very greatly improved. It may be re-dried by putting it in a metal dish, such as a pie plate or iron pot, and placing it in an oven of a hot fire or over a gas jet. As soon as it becomes heated it will be observed that a process identical with boiling water is taking place. When this ebullition has entirely ceased, the powder is freshly kiln dried. If the method of testing is again resorted to, it will be found that the gritty appearance and feeling will have disappeared, in a very large measure, leaving only the fine dry powder ready for use. If there are any lumps remaining, they may be removed by the use of a sieve. From what has been already said, it will need but a reminder that the plaster of Paris must always be kept in a hermetically sealed jar, or in a very dry place.

Now as to the material of which the bandage is to be

made. The materials most frequently resorted to, are the ordinary surgical roller bandage, made out of unbleached muslin; cheese cloth, made out of same material, and differing from the former only in its having larger meshes; crinoline, a stiff gauze; and buttercloth, or bleached gauze. It is a matter of very great importance that the material used for the bandage should possess the property of absorbing water, and, therefore, the foregoing materials will be submitted to a comparative test in order to observe their relative value. As small pieces of the above are placed in a basin of cold water, it will be observed that the buttercloth sinks immediately, the crinoline more slowly, the cheese cloth and surgical roller bandage remain on the surface, and at the end of an hour will be found to be almost as dry as when they were put in the water. Therefore I would recommend as the best material for making a plaster of Paris bandage, the commercial buttercloth. This material is made exactly like cheese cloth; in fact it is cheese cloth which, by some process, has been bleached, and it is stiffened some, not by starch or sizing, but simply by being passed over heated rollers. This enables it to hold its shape, but it is not as stiff as crinoline, nor are its fibers covered with a sizing which will prevent its absorbing water. There are two brands of buttercloth on the market, known as the Reading and the Weymuth. Either of these materials may be bought in any length, one yard wide, for 3 to 5 cents a yard. Where the bandages are to be made in large numbers, I find it decidedly advantageous to purchase it in the original package, containing 50 to 100 yards, simply because of the convenience in preparing it. The surgical roller bandage may be readily and accurately torn in the requisite widths, but the cheese cloth and buttercloth cannot be torn straight, and therefore some other method must be resorted to, in the case of the buttercloth, in order to have the bandages of even width. If but a few bandages are to be prepared, the material may be cut into widths of $2\frac{1}{2}$ or 3 inches, with a pair of scissors, following a thread, or a long piece of bandage material may be rolled into as tight

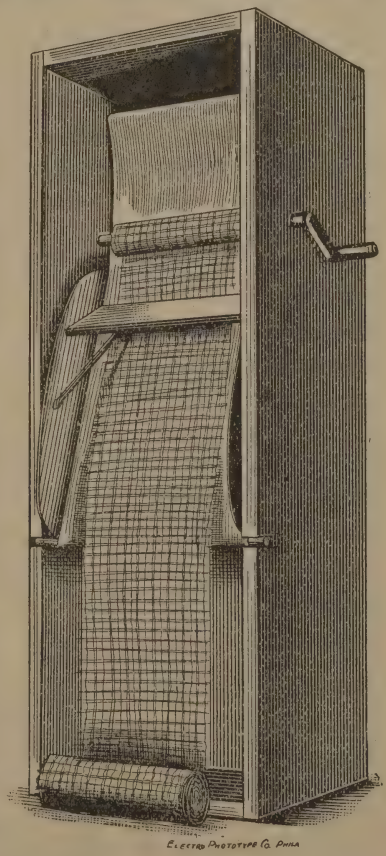
a form as possible, and then cut transversely with a sharp knife. This method has the advantages of rapidity, of accuracy, and of not requiring especially made appliances for the purpose.

The next step will be the combination of the bandage material and of the plaster of Paris, and there are two ways of accomplishing this. One way is to apply the bandage to the part to be covered, and after a layer has been put on, to smear the so-called cream of plaster of Paris on the bandage; then another layer of bandage, and then more cream of plaster of Paris, and so on until sufficient thickness has been obtained. The cream of plaster of Paris referred to, is made by mixing the dry plaster of Paris powder with sufficient water to make it of the consistency of thick cream. This method has the disadvantage of being excessively dirty, because in the attempt to carry the cream from the basin in which it has been made, to the parts upon which it is to be applied, it is sure to drop over everything and to splatter all around, and it is therefore desirable to avoid this way, by the better way which I shall now describe.

The simplest way of filling the meshes of a buttercloth bandage with dry plaster of Paris, is to spread the bandage to be rolled, on a table at which you are sitting, to have a pile, of a pound or more, of plaster at your right hand, and while you roll the bandage with your left hand, to apply the powder smoothly on top of the bandage with the right hand, or if you prefer, you may use a spatula or even a table knife. In this way a thin layer of the powder is evenly applied on top of the bandage, and in the process of rolling, it is squeezed into the meshes, filling all the interstices. Some of the powder will squeeze through and remain on the table, leaving parts of the bandage with an insufficient quantity, but this can be avoided by having some of the loose powder on the table directly under the bandage, as it is being rolled. Where only a few bandages are to be prepared, this plan answers every purpose. Its great disadvantage is that the fine powder spreads all around, going from the hands on the clothing, on the floor, and by the very

motion required in this manipulation, scatters throughout the room, to a greater or less extent. To avoid this dirt, and to facilitate the more even preparation of the bandage, I have devised a box, or bandage roller, which, while it removes the objections already described, possesses the advantage of speed which is often an important item. The box I devised for the purpose, is made by Mr. A. G. Gefvert, the Mechanician to the Hospital. It is 16 inches long, 5 inches wide and 5 inches deep, although any size box may be used for the purpose.

In this box there is a movable diaphragm made of tin hinged at a point 12 inches from one end of the box. The extremity under the crank pin, upon which the bandage is rolled, is curved so as to conform to the increasing size of the bandage while it is being rolled. The sides of this tin diaphragm, beginning at the hinge, and extending 6 inches, are turned up at a right angle, simply to prevent the escape of the plaster over the sides. Five inches from the hinge there is what I call for convenience, a distributor, which is simply a gate, hinged to the upright sides of the distributor, at such an angle as to make an even distribution of the plaster, on the bandage, as it is being rolled. It is kept in place, and enabled to make gentle downward pressure, by means of rubber elastic bands, attached to the



turned up sides of the distributor, at a point about 3 inches from the hinge. The free moving end of the diaphragm has also a rubber band attached to and connecting with the box, so as to hold the diaphragm always in contact with the outside layer of the bandage, from the beginning of the rolling to the end. The free space of the box beneath the distributor is used to hold the dry plaster of Paris, which is brought up and placed on the bandage behind the distributor, by means of any convenient form of scoop. The method of using the apparatus is as follows: The diaphragm being entirely free from plaster of Paris, the crank pin is inserted, and the gauze is passed over the hinge of the diaphragm, under the distributor, and then under the crank pin. One or more turns of the crank pin are made simply to catch the gauze. Sufficient plaster of Paris is now placed behind the distributor, and the crank pin turned in such a way that the bandage is kept in contact with the diaphragm. The left hand is used to guide the bandage so as to roll straight, and, at the same time, to make a gentle restraining force that may be required to prevent its being rolled too loosely. When the bandage has become large enough for use, or when the length required has been exhausted, the left hand grasps the bandage firmly, and a quick reversed turn of the crank pin is made with the right hand, withdrawing the crank, the bandage is placed to one side, the rubber elastic band at the extremity of the diaphragm is loosened, the diaphragm raised so as to throw all remaining plaster of Paris back into the box. It is then ready for another bandage.

From what has already been said about the difficulty of keeping the dry plaster of Paris, it will be apparent that the same difficulty will be met with in preserving the plaster of Paris bandage after it is rolled. It is therefore, important that each bandage, shortly after its preparation, should be tightly enveloped in previously prepared paraffin paper, the ends of which should be twisted or fastened in such a way as to make it practically impervious. If this is done, the bandage may be put away for months, and when used will be in as good condition as when originally prepared.

THE SYSTEMATIC MANAGEMENT OF WASTING DISEASE IN CHILDREN.

By John Madison Taylor,

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Children not seldom drift into a lowered plane of health without apparently adequate cause. Eustace Smith has aptly characterized certain of these conditions as "wasting diseases," and has laid most valuable stress upon "mucous disease," subacute or chronic catarrhal disorder of the digestive tract, and he rightly credits these with being the foundation for a long train of stubborn symptoms. In America it would seem that catarrhal disturbances are far more common than abroad, complicating many other more obvious maladies, and themselves demanding close watchfulness. Along with these again, either as a result, or peradventure as the foundation of them, must be considered loss of vital tone, upon which attention need be focused before good results can be obtained.

For such conditions it is not enough to prescribe suitable medicines, nor enumerate easily digested foods which the mother shall provide, nor to direct proper outings, baths, etc. Thorough systematization of the entire daily life of the child is infinitely more efficacious than the most accurately selected medicines, or the use of innumerable hosts of children's foods, with which, and their specious descriptive circulars, the enterprising chemists flood our morning mails. The best tonic for the stomach is food, carefully prepared food, such as a fairly intelligent mother in the humblest walks of life, if rightly directed, can readily afford, but always provided that the times and circumstances of its administration be wisely chosen and strictly adhered to.

The predigestion of food stuffs offers undoubted safeguards to the weakened, toneless digestive tract, but often robs them of that savoriness which is essential to acceptability, hence destroying appetite. The general practice of steriliz-

ing milk for infants, invaluable as this precaution is for temporary use during hot weather, and in cities, if persistently done, often leaves anæmia in its train. Pasteurization, or heating of milk to about 145°F. is an improvement on this method, which any mother can compass by means of old beer bottles filled with milk, stoppered with cotton, and placed in a pan of water which is brought to a boil for a few minutes.

However, ample advice or full directions are to be had on all sides as to the preparations of infant food, and the medical man can offer no excuse for not knowing enough about the subject if he only consult the pamphlets gratuitously provided him. It is, however, only safe to have a reliable manual ever at one's elbow in such books as that of Dr. Louis Starr and others of a similar scope.

The point which certainly does not obtain adequate general attention is the thorough systematization of the when, where, and how much of these foods shall be taken; what *varieties* shall be insisted on, the times and kind of bath, the amount and character of exercise, and above all, *rest* after feeding, so that the organs shall be able to functionate. First, then, when confronted with an ailing child, which is not ill, but far from well; when appetite is variable but small, when sleep is restless, the digestive organs manifestly disturbed and temper fretful, one that fails to hold its own in play among its fellows, and what may not be ignored, whose weekly school report shows decided backsliding; first, I say, look the little fellow over thoroughly in all respects.

There may not be one organ more amiss than another, though the most obvious faults will seem to be in that avenue to all vital power, the *prima via.* There may be yet no falling off in weight, a far more instructive index in a child than in an adult, nor obvious anæmia. There may be a quicker pulse than ordinarily, a change in the heart sounds which the initiated will recognize but cannot so clearly describe; there probably will be found, if so much trouble be taken, a rise in temperature, slight but unmis-

takable, and there is great probability that neither the attention nor other exertion is readily sustained. The child, in marked contrast to its healthy comrades and itself at other times, is willing to sit aimlessly, if not a martyr to energetic taskmasters, or to an over strenuous conscience which drives its willing victim to the verge of perpetual exhuastion, and often over it into the pit of complete collapse.

Such cases as here pictured are common enough, if only the eyes are open to see them. They escape attention only too readily till some malady seizes them in all their pitiable weakness, and life is speedily quenched. It is a worthy quest, then, to seek out and rescue these from no picturesque fate, but an ever present menace; to rehabilitate these unresilient little bodies, and even make them better than before; to put them in the way of a sound bodily equipment for their life work anon.

Begin by a few days absolute rest in bed, and follow with a strict schedule, involving rest after each meal for an hour or two. Specify the hour for each feeding, and add fluid food between these, for a time predigested. Let the day begin with a sponge bath, given by a gentle hand in a warm room, then a light breakfast daintily served. Let some one rub into trunk and limbs an oil. Cod liver oil thus applied is of great value, and much of it is absorbed, especially if one-third part of soap liniment, which aids the osmotic action, be added.

This serves to furnish passive exercise and also nutriment. The late Dr. Randolph proved the absorption of oil thus used by the super-fatty stools voided, and some children can only take it thus, and many are marvelously benefited thereby. Let the food be of varied nature, judiciously selected and prepared, given in small amounts at meal time, and first supplemented by milk and soups between, and at bedtime.

Above all, in the early course of these measures, avoid amusing the child. If it manifest a desire for toys, they may be allowed, sparingly; but aggressive entertainment

by over solicitous persons must be strictly forbidden. After a few days, permit the range of one sunny room, but complete rest lying down for an hour after each meal is important.

Two or three weeks of such measures will be found most helpful in many a doubtful case; and certainly convalescence from acute diseases should obtain systematization always. Again, an observation I have time and again verified; a child will be presented who is very carefully fed, who receives the most solicitous care, oftentimes under good medical advice. And yet it fails to gain. Upon inquiry there will be revealed much sameness in the diet list, otherwise quite proper to the condition for which it was devised.

The little victim's soul comes to loathe the sight of its flabby paps recurring in dismal routine. To these now add a more varied dietary, revising the menu day by day, and write it all clearly down for the mother's use, and the most gratifying results may become visible in less than a week.

THE TREATMENT OF IMPENDING PERFORATION OF THE CORNEA.

By G. E. de Schweinitz, M. D.,

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Reported by

Florence Mayo, M. D.,

ASSISTANT IN OPHTHALMOLOGY, PHILADELPHIA POLYCINIC.

Gentlemen: At the last lecture I considered the various forms of corneal ulcers, and to-night shall describe the different methods of dealing with ulcerated keratitis, with especial reference to the prevention of impending perforation of the cornea, checking the spread of local infection and the management of the results of corneal ulceration.

When perforation of the cornea is liable to occur by the extension of an ulcer, the simplest measure to prevent this

disaster is the application of an antiseptic, compressing bandage. For this purpose squares of lint are placed over the closed lids, the inequality of the orbit filled in with a carefully adjusted wad of bichloride cotton, and the whole retained in place with successive turns of a neatly applied gauze bandage. This dressing does good by immobilizing the lids and supporting the thinned layers of the cornea, which threaten to bulge and rupture under the influence of the intraocular tension. The bandage should be removed when the necessary local applications are made, and again reapplied. One of the objections to long continued use of a pressure bandage of this character is the appearance of an eczematous eruption upon the skin of the lids. This may be treated by dusting the parts with finely powdered calomel. Ordinarily, catarrh of the conjunctiva contraindicates the use of a bandage.

When, however, there is a call for the relief of the condition known as hypopyon keratitis, or that lesion which consists of an ulcer of the cornea complicated by a collection of pus in the anterior chamber, more vigorous measures are indicated. Not alone in this condition, but also in that of ordinary ulceration, when the bulging forward of the floor of the ulcer indicates that perforation is imminent, the intraocular tension may be lessened by paracentesis of the cornea. This operation is performed as follows: The cornea is punctured near its lower margin, or directly through the floor of the ulcer, with a paracentesis needle, constructed with a shoulder to prevent undue depth of entrance, inserted at an angle of 45° with the point of contact. The needle is rotated slightly on its long axis, the lips of the wound are separated, and the contents of the anterior chamber are encouraged to escape. The act of withdrawing the knife must be done slowly, lest a sudden gush of the aqueous cause prolapse of the iris. On subsequent days, if necessary, the wound may be reopened with the probe end of the instrument. If the regular paracentesis needle is not at hand, the operation may be performed with an ordinary broad needle or a short keratome. After

the operation the eye is thoroughly cleansed with an antiseptic fluid, eserine or atropine is instilled according to the indications which I have already given you in a previous lecture, and the patient is put to bed.

It is, however, just in these cases of hypopyon keratitis and serpiginous ulcer, where the arc of propagation steadily progresses across the cornea, while the pus burrows in the layers of this membrane, the iris becomes involved, and from its anterior face and from the posterior layer of the cornea, a secretion of pus gradually fills the anterior chamber, that a mere paracentesis is not sufficient. For a long time, and even at the present day, under circumstances of this character, Saemisch's section has been much employed. When this operation is done, the upper lid should be raised on an elevator by an assistant, and the surgeon, seizing the conjunctiva below the cornea with fixation forceps, passes a cataract knife through the cornea on one side, with its cutting edge upward, carries it across the anterior chamber to the other side of the ulcer, and completes the section through the cornea, evacuating the collection of pus in its layers and at the bottom of the anterior chamber.

If the hypopyon is tenacious and partakes of the character of a slough, it may be removed by inserting a delicate pair of forceps through the incision and seizing the slough, or it may be washed out with a specially devised syringe, the most useful pattern being that of Lippincott, of Pittsburg. As after paracentesis of the cornea, if there is reaccumulation of the purulent matter in the anterior chamber on the day succeeding the operation, the lips of the wound may be separated and the collection again removed. The most serious objection to this operation is the danger of prolapse of the iris into the wound and the formation of an extensive anterior synechia. Partly because of this, and partly because we are in possession of methods equally good and less liable to be followed by this accident, the section of Saemisch is not now so generally practised as was once the case, but is reserved to meet special indications. Section of the cornea by either of the

methods just described is sometimes followed by marvelous relief, and a patient who night after night has been restless with pain, secures at once a deep and refreshing sleep.

In any of the types of sloughing ulcer, provided either of the operations just described does not seem indicated, and provided the ulcer continues to creep across the face of the cornea, or tends to pass inward through its layers, the process may be stopped by one of several means:

(1) The ulcer may be carefully but thoroughly *curetted* with a sharp spoon or spud, all the sloughed material removed and the edges pencilled with a sublimate lotion 1-2000, or iodoform dusted upon its surface. In like manner nitrate of silver and carbolic acid are useful; the former, in a strength of ten to twenty grains to the ounce, is applied directly to the seat of ulceration, which, according to the amount of infiltration, has or has not been prepared for the reception of the drug by a previous curetting. Care must be taken to avoid the surrounding cornea, and the application is made to the selected spot by means of a probe on which has been twisted a thin band of absorbent cotton, or the point of a pencil of lunar caustic may be gently pressed against the sloughing tissue.

(2) In the vast majority of cases of infective ulcer of the cornea, however, the most satisfactory method of preventing the spread of local infection and encouraging rapid cicatrization is the application of the *actual cautery*. For this purpose you may employ an ordinary small Paquelin or the galvano-cautery. When neither of these is at hand, good service is given by a knitting needle or platinum probe heated redhot in the flame of a Bunsen burner or an alcohol lamp. In order to ascertain the exact area which should be cauterized, the suggestion of Nieden to first instil a drop of a two per cent solution of fluorescine, which will color green all portions of the cornea denuded of epithelium, and consequently all portions which require to be cauterized, is of the highest importance. This having been done, the instrument being ready, a few drops of cocaine are instilled to produce anesthesia, and all of the sloughing material is

gently but thoroughly cauterized, and without undue pressure. If it is believed that a combination of evacuation of the contents of the anterior chamber and cauterization of the ulcer is indicated, the floor of the ulcer may be perforated with the instrument, as has been suggested by Nieden. In very extensive ulceration, involving a large area of the cornea, there is reason to hesitate in the employment of the actual cautery, lest the application, in order to stop the sloughing process, would have to be so extensive as to lead to the possibility of excessive reaction. The cautery should never be applied to an ulcer which has already ruptured, and to the margins of which the iris has become adherent. There are cases on record in which, under these circumstances, a destructive inflammation, with subsequent loss of the eye, has been occasioned by a traveling back of the inflammation from the inflamed stump of the iris.

In cases of hypopyon keratitis in which there is a large ulcer, associated with a hypopyon that nearly fills the anterior chamber, and in which this collection has assumed the character of a slough, a combination of Saemisch's section and the application of the actual cautery is a useful surgical procedure; the one permits the removal of septic material from the anterior chamber, and the other destroys the septic material in the cornea. This, as Gruening originally urged, may prove of the utmost value.

It is hardly necessary for me to refer to the question of scars following this procedure, except to say that my experience, which is a considerable one, does not lead me to believe that the cicatrices are more extensive because the cautery has been applied, while, on the other hand, I am quite sure that in the vast majority of cases, and remembering the exceptions which I have already quoted, it furnishes the best results with the least reaction.

In all sloughing and infective ulcers of the cornea, no matter whether you are about to perform paracentesis, Saemisch's section, curetting, or to make an application of drugs, as strong solutions of bichloride of mercury, carbolic acid, or nitrate of silver, or to apply the actual cautery, it is

essential that you should attend to one form of possible infection, namely, the lachrymal canal. If there is dacryocystitis, as is only too commonly the case, you should slit up the canaliculus, freely irrigate the sac with bichloride of mercury, 1–5000, pyoktanin, 1–1000, or antiseptic fluids of similar properties, and at each dressing of the ulcer, you should carefully repeat this irrigation of the lachrymo-nasal duct. Not only this, but it is advisable in corneal ulceration to carefully examine the nares and naso-pharynx, using sprays and applications suited to checking whatever form of infectious rhinitis may be present. In order to effectually debar disease of the lachrymo-nasal duct from participating in an ulcerated process of the cornea, certain operators, for example, Aschman, of Wheeling, W. Va., have closed the punctum by inserting for a few millimetres a galvano-cautery wire, closing the circuit, and thus causing adhesive inflammation of the canal. After the ulcer has been cured, the canal is reopened and the proper treatment of the affected area is undertaken.

Occasionally we are called to deal with an abscess of the cornea, the anterior wall of which has not perforated, but which bulges forward, the apex being marked by a slight depression. Under these circumstances, the best operation is to incise the anterior wall with a delicate knife, and to conduct the subsequent treatment on the principles already laid down for sloughing ulcers.

Independently of the ordinary application of germicides, for example, bichloride of mercury, carbolic acid and nitrate of silver, and independently of the milder measures of treating corneal ulceration which we have discussed together, I may repeat to you a summary of what seems to me to be the best surgical measures for dealing with spreading and infective corneal ulcers, a summary which I have had occasion to use more than once: The actual cautery should be used in ordinary sloughing ulcers and in medium-sized serpetic ulcers of the cornea with moderate degrees of hypopyon; Saemisch's section, or a modification of this, in large, infective ulcers, with extensive hypopyon, composed

of tenacious material resembling a slough; a combination of the galvano-cautery and corneal section in types of extensive ulceration and hypopyon when it is desirable to secure the combined effects of corneal incision and thorough destruction of sloughing tissue; and some form of operation, for example, superficial incision or curetting which removes the necrotic tissue, in circumscribed abscesses of the cornea, or in small abscesses which have burst superficially and are beginning to infiltrate the lamellæ of the cornea. Finally, in any form of infective ulcer of the cornea, after removal of sloughing tissue by any ot the recognized means, healing is encouraged by the direct application to the lesion of some form of antiseptic, and experience seems to show that the one most generally applicable is iodoform. In all of the instances quoted, if there is no contraindication, a compressing bandage assists in the cure, and indeed, is very likely responsible for a great deal of it.

EXOPHTHALMIC GOITRE.[1]

By Charles W. Burr, M. D.,

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Gentlemen: I propose to discuss with you to-day the subject of exophthalmic goitre. The history of the case I shall show you is as follows:

Case.—Female, age 25, single, white. The family history is entirely negative. The patient has always had good health until the present trouble began. About one month ago she began to suffer from itching of the eyelids, for which she was treated by a competent eye specialist, who on her first visit discovered nothing except a slight conjunctivitis. After a week she developed her present condition.

As you see, the eyeballs are so prominent that the conjunctiva is distinctly visible above and below the cornea when she looks directly forward. When I tell her to hold

[1] A clinical lecture.

her head motionless and look to the floor the upper lids do not follow the movements of the globes, but remain spasmodically elevated. This is called von Graefe's sign. There is no difficulty in voluntarily closing the eyes. There is no retraction of the lower lid. The pupils are moderate in size, equal, and react to light and accommodation. Vision is good. There is no lesion of the fundus nor pulsation of the retinal arteries.

The thyroid gland is moderately enlarged, especially upon the right side. There is no enlargement of the superficial veins running over it. There is very slight pulsation in the gland itself, a thrill is felt on palpation, and on auscultation a blowing murmur is heard. The pulse is 128 to the minute, regular, and of good tension. The apex beat is normally situated. There is a distinct but not very loud systolic murmur heard all over the heart, but loudest at the base. There is some pulsation of the carotids. The patient is unconscious of the heart's action. There is neither palpitation nor cardiac distress.

There is a slight fine tremor of the hands, present only on extension. On going up-stairs, running, etc., slight dyspnœa develops. The appetite is good. The bowels are regular. Menstruation is normal. There is no anemia. The patient has absolutely no subjective symptoms and comes only on account of fear of what may happen.

I can find no clue to the cause of the patient's condition. There is no neurotic inheritance, no previous long-continued illness, no history of excessive grief. This last, be it remembered, is one of the commonest causes. The development of the disease has been rather more rapid than is usual, but cannot be compared with that of some cases. In a case of Lloyd's at the Philadelphia Hospital, for instance, all the classical symptoms of the disease appeared suddenly, and death followed in three days. Many similar cases have been reported. Usually, however, the disease is very slow in developing.

Course of the Disease.—The order in which the three

cardinal symptoms, overaction of the heart, exophthalmos, and enlargement of the thyroid gland—appear, varies greatly. Most often the patient suffers from attacks of palpitation becoming more and more frequent, and more and more easily brought about by physical exertion or emotional excitement until finally the heart is in a continual state of overaction. This is then followed by exophthalmos and goitre.

Sometimes, however, as in our case, the heart may be but little or indeed not at all affected, while the other signs are plainly visible. Later cardiac hypertrophy, dilatation, and palpitation appear. Slight mitral endocarditis is sometimes found postmortem, but far too infrequently to permit the assumption of any causal relation between ordinary valvular disease and this affection. The exophthalmos and goitre are most apt to appear at the same time.

The freedom of our patient from subjective symptoms is, of course, due to the very slight involvement of the heart. So frequently is cardiac overaction the only prominent sign of disease in the early stage that in every patient in whom it is present without definite causes the thyroid and eyes should be carefully examined.

The *differential diagnosis* from ordinary goitre is usually easy. It must be remembered, however, that in goitre, pressure on the vagus and sympathetic from a large bronchocele may produce exophthalmos [usually on the side on which the enlargement is greater] rapid pulse, and mydriasis. Aneurism of the carotid may simulate goitre to some degree.

Complications.—The disease is often complicated by other conditions. One of the rarest and at the same time most interesting is bronzing of the skin similar to that found in Addison's disease. I have seen one case in the wards of Dr. J. K. Mitchell at St. Agnes' Hospital. There was diffuse, light-brown pigmentation over almost the entire body, but most marked on face, neck and hands. Unfortunately the patient left the hospital before a careful study of her case could be made. R. Hack Tuke somewhere speaks

of a case in which though there was no bronzing of the skin yet post-mortem disease of the supra renal bodies was found. On the whole I am inclined to think that rare as bronzing of the skin is in exophthalmic goitre and despite the great differences in the manifestations of the two diseases that sooner or later we will obtain evidence to prove relationship in causation.

Vitiligo is sometimes present. Glucose and albumen may be found in the urine. Occasionally there is a general lymphatic enlargement. According to Charcot there is diminution of the electrical resistance of the skin, due probably to its saturation with moisture from the vasomotor changes. Tremor, especially of the hands, and either fine or coarse, and profuse sweating are common enough to be regarded as part of the disease rather than complications.

There is more than an accidental relation between exophthalmic goitre and insanity. In any case there is apt to be mild melancholia or at least depression of spirits or mental irritability; but there may be distinct melancholia or acute and violent mania. The condition is also found in paretic dementia and cases of recurrent insanity have been reported in which with each outbreak all the symptoms of exophthalmic goitre have appeared.

Prognosis.—The duration of the disease varies greatly. As before mentioned the onset may be sudden and the course acute. What proportion of these cases end fatally I am unable to say. Usually, however, the disease lasts several years, sometimes with marked periodic lessening of the symptoms, sometimes with complete intermissions lasting a shorter or a longer time. According to Gowers about twenty-five per cent. of the cases recover. But even if there is not perfect cure there may be distinct lessening of the disease. Great involvement of the thyroid and eyeballs decreases the chances of recovery. Death usually results from the heart trouble.

Treatment.—The first indication in treatment if the case is severe is absolute rest in bed, the patient not being allowed even to sit propped up with pillows. In no other disease is the heart's action so much increased by even slight muscu-

lar exertion. In no other disease is it more important to reduce cardiac action. Gentle massage given daily will obviate all the evils incident to absolute rest; will keep the muscular system in good tone without exertion on the part of the patient. All emotional excitement should also be avoided. The diet should be plain but sufficient in quantity. Sometimes it is well at first to give milk only.

As to drug treatment little need be said. Digitalis, sparteine, veratrum viride, and aconite have all been tried time and again, and have usually all failed. Each, however, has in certain cases acted well, and a trial of them should always be made. Belladonna either in the form of the tincture or as atropia is the most useful of all drugs, but it should be used in ascending doses and until distinct symptoms of its physiological action appear.

Galvanism has been largely used and it seems to me in some cases with distinct benefit. There are various ways of employing it. The anode may be placed between the scapulae and the cathode moved along the entire cervical spine. The so-called galvanization of the sympathic and vagus is done by placing the anode upon the cervical spine and the cathode over the situation of the nerves from the angle of the jaw to the clavicle. The poles may be placed on either side of the tumor. Finally the current may be passed between the two temples. In all cases mild currents should be used. I am unable to say how much good electrical treatment does. In my own experience it has apparently had more influence upon the tumor than on the heart or exophthalmos. It should, however, be tried in all cases.

Cardiac action can often be reduced by the local application of cold to the precordia. This may be done either by means of the Leiter coil or better still by rubbing with a piece of ice. Take a piece of ice about as large as the fist, one surface being smooth, and rub over the region of the heart for a few minutes once, twice, or three times daily. The time occupied should be increased a little each day until fifteen minutes is reached. If anemia is present iron or arsenic or both should of course be used.

Clinical Notes.

Ichthyol in Erysipelas.—Since the advent of antisepsis, cases of erysipelas have become almost rare in surgical practice. But recently I have had six cases of that disorder present themselves and have been able to confirm some previous isolated observations upon the action of ichthyol locally applied as a specific. Two of these cases involved the scalp and face, two the face and ears, and two the right lower extremity. All resulted from infection of neglected wounds and were of severe type. Those affecting the lower extremity were of very threatening degree, and involved the entire limb from toes to mid-thigh. In each instance all traces of redness and infiltration *disappeared completely* within four days of the first application of the remedy. Where the face or scalp was invaded a 30% mixture of ichthyol in lanolin was smeared upon the parts and gently rubbed in every two hours. But where dressings were applicable the ointment (the same strength) was spread upon lint, applied thus to the parts, and covered in with wax paper and a bandage. In four of the cases five grains of quinine was also administered four times daily in addition to the external application. The two remaining cases were treated only locally, but these recovered with just the same rapidity and satisfaction as did the others.

A considerable experience with various remedies for erysipelas in pre-antiseptic days, and occasional cases since, has led me, in view of the results attained with ichthyol (ichthiolate of ammonium) to believe that in this agent we have the most powerful and satisfactory remedy that has yet been introduced. It is scarcely necessary to add that wounds through which infection has passed must be sterilized before the ointment is applied. It is my habit to accomplish this by spraying first with hydrogen dioxide, then washing with 1–100 sublimate solution and finally dusting in aristol or iodoform thickly. The ointment is then spread on without intermediate dressing.

Thomas S. K. Morton.

Tinnitus and Vertigo from Middle Ear Disease.—Thomas T., aged fifty-one years, complained greatly of loud, incessant tinnitus and vertigo, which prevented work, and even sleep. Each drumhead showed depressed cicatrices, with firm bands binding the malleus handle to the promontory. Division of these bands, as well as preceding inflation and pneumatic massage gave relief, but only of the shortest duration.

Disarticulation of the stapes from the incus was therefore practised with some mobilization of the latter ossicle, but relief again proved transitory. Under ether, therefore, the malleus and incus were excised, the latter being, with great difficulty, brought down and grasped. Healing was uneventful. Some improvement was noted, but the fairly good hearing has remained almost unaltered, while tinnitus is complained of as much as before.

The excision of the stapes was contemplated, but not carried out, by reason of not clearly discerning the ossicle at time of operation.

In view of the small benefit observed in the majority of cases of excision of drumhead and malleus, I look to the removal of the stapes as being the more rational measure, and the only one to which I would resort in all appropriate cases, since twenty or thirty such operations, by Jack, of Boston, have thus far been without a single unfavorable result, and the improvement in hearing has been most striking.

B. Alexander Randall.

Current Literature.

Foreign Bodies in the Air Passages.—Dr. Willis F. Westmoreland (*Southern Medical Record*) lays down this rule, that the certainty of the presence of a foreign body in the air passages makes an operation immediately necessary, and from this he makes absolutely no exception.

In making a diagnosis of these cases the author depends upon the history, that is, the sudden onset of symptoms, without previous history of any throat trouble, the fact that the patient thinks he has swallowed something, and, principally, upon hearing the whirr as the foreign body is carried up and down the trachea by the movement of respiration, and the click as it strikes against the walls of the trachea or larynx.

If the patient is seen and the operation made shortly after the accident, the foreign body comes away promptly, the mucus that has accumulated in the trachea as the result of the slight irritation is coughed out, and the trachea is ready to be closed in a few minutes. After considerable irritation or inflammation has been set up, either by the length of time the foreign body has remained or on account of its roughness; though the foreign body may come away promptly, it is not safe to close the wound on account of the immense accumulation of mucus. Silk threads are passed through the edges of the tracheal incision and the trachea is kept open until it is comparatively clear, then the edges are allowed to come together as close as they will. A handful of loose bichloride gauze is put over the wound and held in place with a tightly applied bandage. This dressing protects the trachea and wound, but still allows the mucus that does not easily escape through the mouth to be coughed through the opening into the dressing.

When the foreign body does not come away after waiting a short time, after the trachea has been opened, instead of the usual plans of trying to remove it by instrumentation, the author simply places a loose dressing of gauze over the

wound and leaves it to nature, feeling assured that she will expel it with less irritation than his efforts would cause. He has waited in this manner, in four cases, periods varying from six hours to four days, with perfect success.

Gastrodiaphany (*N. Y. Med. Journal*) is the name given by Dr. Max Einhorn to the examination of the stomach by translumination, something totally different from gastroscopy or looking into the stomach. A soft rubber tube at the end of which is fastened an Edison lamp (of hard glass) is inserted into the stomach with no more difficulty than the ordinary stomach tube. The patient, previously fasting, drinks one to two glasses of water before the insertion of the apparatus, which is lubricated with glycerin. In this way the stomach in man may be transluminated and its position and size made apparent by an area of illumination on the exterior of the body.

Gastrodiaphany enables one, (1) to recognize quickly a dilatation of the stomach; (2) to point out with certainty the condition called gastroptosis or downward displacement; (3) to perceive tumors or thickenings of the front wall of the stomach by their lack of translucency.

Codeine as an Anodyne.—Dr. J. B. Mattison (*Cincinnati Lancet-Clinic*) says that the anodyne and hypnotic power of codeine makes it in his opinion worthy of a larger claim to professional favor than it has yet received. Not only is it analgesic and soporific, but it is specially adapted to cases of prolonged need along these lines, where if morphine be given there is grave risk of the morphine disease.

Codeine is one-third the strength of morphine. Pure codeine is not suited to subdermic use, but the phosphate, muriate and sulphate can be given hypodermically. They are soluble as follows:

Phosphate 1 part boiling water 4 parts cold.
Muriate 1 " " " 20 " "
Sulphate 8 " " " 40 " "

The percentage of codeine in the various salts is, Muriate, 80; Sulphate, 76; Phosphate, 70.

Infant Foods.—Prof. Edgar Everhart (*Texas Sanitarian*), after an examination of the infant foods now on the market, fails to find among them a proper physiological or chemical substitute for woman's milk.

His reasons for arriving at this conclusion are as follows:

1. No infant food, as now sold, can be made up either with or without the addition of cow's milk, so as to produce a liquid having as great an amount of total solids (13.75 per cent.) as are in woman's milk, unless, indeed, such total solids consist of such an injurious substance as starch, or the caseine of cow's milk.

2. Not one of these infant foods is composed of nitrogenous matter that is as easy of digestion as is that of woman's milk.

3. The percentage of fat is uniformly too low for the requirements of the infant organism.

4. Because the soluble carbohydrates, even when present in large amounts, are different in chemical properties, and most likely also in physiological, from the milk sugar contained in woman's milk.

5. Chiefly because the great majority of infant foods introduce a substance (starch) into the stomach of the child which is never found in woman's milk, and which we know by direct proof can not be assimilated by the digestive system of an infant.

6. In these cases where there is an approximation to woman's milk, this approximation is due to the use of cow's milk.

The author claims that a milk, compounded according to this formula—

Cow's milk	1 pint.
Water	$\frac{3}{4}$ pint.
Cream	5 tablespoonfuls.
Milk sugar	3 tablespoonfuls.

very closely resembles human milk, so far as percentages are concerned, and also as far as physiological characteristics, except in the case of the nitrogenous matter.

If the milk formed in this way be treated with a little

extract of pancreatin for a few minutes, it becomes almost identical in every respect with average human milk.

He considers this discovery of the peptonizing of cow's milk for the purpose of preparing an artificial human milk to be one of the most important contributions made to physiological chemistry for many years, and it will doubtless be the means of saving the lives of many children.

The Treatment of Pneumonia.—Dr. H. A. Hare (*Medical World*) bases the treatment of pneumonia upon a recognition of the general condition of the patient rather than upon the cause of his illness. If the patient has been strong and healthy until attacked and is seen within a short time after the initial chill and the consequent rise in bodily temperature, it will be found that his pulse is full and bounding, the cheeks flushed and the respiration somewhat rapid. At this time, and at no other, is aconite, veratrum viride, or antimony indicated, and they should be given fearlessly while they are given. From two to three drops of the tincture of veratrum viride or a similar quantity of aconite, preferably the former, are given every half hour until the decrease in pulse rate and pulse force and the appearance of a slight perspiration indicate that the full influence of the drug has been exerted. If veratrum viride has been given early enough it is certainly competent to abort an acute croupous pneumonia occurring in a previously healthy individual. If it is not given early enough the result of its administration will be to hurt the patient.

If there is marked dullness on percusssion, with blowing breathing and the typical, fine crepitant râle of pneumonia, the use of these cardiac sedatives is contraindicated in most cases, because the disease has become thoroughly instituted and the stage is past when the remedy can do good.

Where there is tendency to cardiac failure and the apex beat of the heart seems at all muffled or feeble, digitalis is indicated. The best results from its administration will follow its use in the dose of not less than ten minims every eight hours rather than smaller doses frequently repeated.

Particularly is digitalis indicated if the pulse seems feeble.

Where the skin has a tendency to be moist and the pulse, although large in volume, from the action of digitalis, seems to be surrounded by a relaxed arterial wall, the tincture of belladonna in the dose of five drops every four hours during the night and day will produce a wonderful change for the better. In some instances where there is considerable dyspnœa, it is well to administer no less than 1–40 and frequently 1–20 of a grain of strychnine every four to eight hours with the digitalis, and if the cough persists in the face of the belladonna, 1–12 to 1–8 of a grain of morphine may be given hypodermically.

When the crisis takes place in pneumonia we should always be on the lookout for collapse and cardiac failure, and for the treatment of this accident no remedies are equal to full doses of strychnine and atropine.

In the asthenic cases of pneumonia the use of digitalis, belladonna and strychnine must be resorted to almost from the very first. Wet cups or leeches do much good in the early stages of acute sthenic pneumonia, but dry cups should be employed in the early stages of asthenic pneumonia.

The Influence of Magnetism on Vital Processes.—Dr. Frederick Peterson and A. E. Kennelly (*New York Medical Journal*) conclude from a series of experiments made in the Edison Laboratory that the human organism is in no wise appreciably affected by the most powerful magnets known to modern science; that neither direct nor reversed magnetism exerts any perceptible influence upon the iron contained in the blood, upon the circulation, upon ciliary or protoplasmic movements, upon sensory or motor nerves, or upon the brain.

While their observations with reversed magnetism indicate that no appreciable influence is exerted upon the brain when subjected to 280 magnetic reversals to the second, they were unable to experimentally alter this frequency, and the possibility remains that some particular frequency or frequencies might affect the nervous system.

They conclude that the ordinary magnets used in medicine have a purely suggestive or psychic effect, and would in all probability be quite as useful if made of wood.

Dysentery and the Ameba Coli.—Dr. William T. Howard, Jr. (*Medical News*), describes the ameba coli when inactive as round or oblong, but when active of irregular outline. In size it varies from ten to twenty micromillimeters in diameter (one and a half to three times the diameter of a blood corpuscle). In some specimens a more or less definite nucleus can be made out. They present two varieties of motion, a progressive motion, by which they change their place, and another consisting in the putting out and retracting of pseudopods. The latter is the more frequent and characteristic movement.

They are most active at the body temperature, and become more sluggish when exposed to heat or cold or to various chemical agents. These amebæ often contain foreign bodies such as red blood corpuscles, pus cells, the nuclei of cells, and bacteria.

Councilman and Lafleur failed to find the ameba coli in the stools of patients with catarrhal and diphtheritic dysentery, and from their observations it would seem that these organisms are found in the stools only in the ulcerative or so-called tropical dysentery. A matter, however, of great importance, is the relative frequency of this last form of dysentery.

And this can be determined only by the examination of the stools of a large number of patients. No one, however large his experience, can be certain that a given case of dysentery is due to the ameba coli until microscopic examination of the stools is made. The clinical value of the differentiation of this form of dysentery from the other forms lies, of course, in the important bearing that this has upon the questions of prognosis and treatment.

Sore Nipples.—Dr. P. F. Ellis (*The Medical and Surgical Reporter*) regards sore nipples as due to narrowing of some

of the lactiferous ducts and the excessive suction this entails. He advises: to squeeze the nipple gently so that the 15 to 20 openings for the corresponding tubes can be plainly seen by the aid of a small magnifying glass, and into each of these orifices to introduce a fine probe and carefully follow the canal to the ampulla. When the strictured one or ones have been passed introduce a blunt probe of larger size and more fully dilate the so-called stricture.

National Quarantine.—Speaking of the recent cholera invasion and quarantine the *New York Medical Journal* says: The State ought not to be expected to deal single-handed with such emergencies. It is impossible for the health officer to comply with the law which requires him "immediately" to remove the passengers from an infected ship unless they are few in number. It is impracticable for any State to have at its command the necessary corps of trained men to superintend the disinfection of vessels and cargoes, or indeed to care for the detained passengers, both sick and well. It is not possible for any State to establish an efficient school for instruction in quarantine duties, and without special instructions no one can be expected to perform such duties in a satisfactory way.

The whole system of State quarantine is one of the survivals from the days when an exaggerated importance was attached to the sovereignty of States. Not only is it out of date to-day; it is a source of national peril. Epidemic diseases do not respect boundary lines. Cholera entering by whatever route will not be limited in its ravages to the particular State which admits it; it will spread far and wide. It is a menace to the whole nation, and it is the nation's duty to protect itself.

There is no doubt that the National Government has the right to assume control of the quarantine. Indeed, there is something almost grotesque about the idea that New York or any other State which has no recognized relations with foreign powers, can justly be compelled, by reason of the failure of the Federal Government to assume the responsi-

bility, to take upon itself the functions that properly belong to the United States; since quarantine necessarily implies more or less interference with foreign ships and subjects, and may therefore lead to international complications. Whatever opposition to federal control may arise must come from people influenced by selfish motives. It is the duty of the profession to use its influence to bring about the reform.

Book Notices.

A MANUAL OF CLINICAL OPHTHALMOLOGY.—By Howard F. Hansell, M. D., Lecturer on Ophthalmology in the Jefferson Medical College, and James H. Bell, M. D., Member of Ophthalmological staff of the Jefferson Medical College Hospital; 12 mo., 240 pages, with 120 illustrations and one colored plate. Philadelphia, P. Blakiston, Son & Co., 1892.

This work undertakes a brief review of the anatomy, physiology and refraction, as well as the diseases of the eye, and the operations performed upon it and its accessory apparatus. Its space is so apportioned as to give a general view of the subject rather than to treat in detail only those matters of especial interest to the general practitioner. For instance, we find seven pages devoted to cataract operations; but no complete description of the method of everting the eyelids.

The choice and execution of illustrations is good, and the colored plate gives an excellent idea of the appearance of the normal fundus. The book will undoubtedly find a large field of usefulness. A point to be corrected in future editions is the naming as McHardy's perimeter a figure of the form of instrument first devised by Priestley Smith.

E. J.

Special Weeks at the Polyclinic, for the purpose of affording practitioners too busy for a longer absence from their own work short concentrated courses of thoroughly practical study, have been arranged on the same plan as the recent highly successful week in Ophthalmology. The *Clinical work* of every appropriate description will be rendered especially valuable by the accumulation and grouping of cases; *Conferences* will be held upon topics chosen as most desirable by those in attendance; and a series of *Studies and Demonstrations on special subjects* will form the skeleton of the course with which all the rest will be closely interwoven.

A Week in Otology and Laryngology, under Professors B. A. Randall, A. W. MacCoy, and A. W. Watson, Adjunct Professor R. W. Seiss, Drs. H. R. Wharton and W. J. Freeman and their Assistants, will begin *May 1st.* The Operative measures, both the old and the new, that have wrought such changes in these specialties during the last decade or two, will receive special attention; including trephining of the mastoid, the mobilization and excision of the drum head and ossicles of the ear; and intubation and excision of the larynx, and the really valuable operations on the nose and its accessory cavities.

A Week in Surgery, under Professors John B. Roberts, L. W. Steinbach, T. S. K. Morton, John B. Deaver, Chas. K. Mills, T. G. Morton, and H. Augustus Wilson, Adjunct Professors, C. L. Bower, and Max J. Stern, and Drs. H. R. Wharton, L. Brinkmann and their Assistants, will begin on *May 8th.* The Operative Surgery of the cranium and vertebral column and their respective contents together with cerebral, cranial and spinal localization will be the leading features of this course.

A Week in Ophthalmology will begin October 9th.

Other Special Weeks will be announced later.

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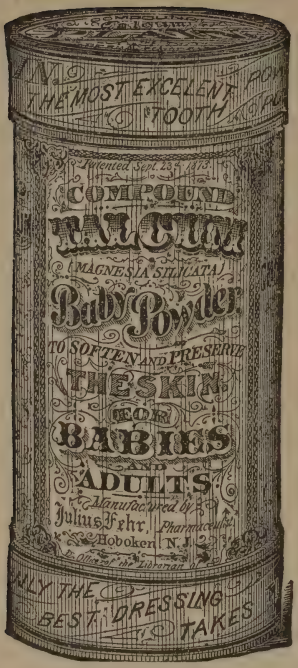

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THE

PHILADELPHIA POLYCLINIC.

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ATROPIA IN UTERINE HEMORRHAGE.

BY HOMER C. BLOOM, M. D.,

INSTRUCTOR IN GYNECOLOGY IN THE PHILADELPHIA POLYCLINIC.

Freund, if I mistake not, was the first to call attention to the value of this drug in uterine hemorrhage. This was as recently as a year and a half ago, since which time I have used it in some thirty cases, embracing almost all the pathological conditions which give rise to hemorrhage from the uterine organs.

In not one case did the drug fail to control the hemorrhage, and in many cases after the first dose there was a decided improvement; in no one case did the drug have to be repeated more than six times.

As was first suggested the hypodermic use of the drug is decidedly preferable, on account of its relieving in a very few minutes the most profuse uterine hemorrhage. It should be given in doses of $\frac{1}{100}$ gr. repeated in from three to four hours, or at longer intervals as the symptoms may indicate.

We appreciate the fact that in the large majority of cases curetting and local treatment would have cured; but so many contingencies arise in the treatment of each case that we cannot always do what is best. It then becomes necessary to control symptoms in some other way; and for this particular symptom we have found, when measures cannot be carried out for the cure of the case, that atropia

acts in an emergency and does control uterine hemorrhage.

My plan at the dispensaries of the Polyclinic and Gynecean Hospitals, where most of the cases came under my notice, was to give $\frac{1}{100}$ gr. sulphate of atropia hypodermically, and request the patient to return the following day, at which time the dose was repeated.

In the interval I prescribe $\frac{1}{100}$ gr. triturates of the same drug to be taken from six to eight hours apart, as required to control the bleeding, and in this way I have the best results.

As to the action of atropia upon hemorrhage, this is probably due to the fact that its physiological action upon the vaso-motor nervous system is such as to contract the blood vessels.

Whether this is the correct theory or not, we have in atropia the most valuable drug that can be employed in this, one of the troublesome symptoms we meet with in the diseases of women.

[Since writing the above there has come under my notice a case of severe uterine hemorrhage due to cancer of the cervix in which the entire neck has ulcerated away; in this case the action of atropia has been negative, as indeed was every other drug.]

Table of Cases.

Age.	History.	Diagnosis or Probable Diagnosis.	Preceding Treatment.	Atropia Treatment.
1				
39	Mrs. C.—Gives history of Syphilis 5 years ago, has been bleeding off and on ever since. Bleeding now for 2 weeks.	Specific Endometritis	Ergot, Nux Vomica, little effect	$\frac{1}{100}$ gr. Atropia controls hemorrhage
2				
40	Mrs. C.—Six children; last pregnancy 2 yrs. ago, followed by what Dr. said was inflammation of the stomach. Menstruation profuse since, lasting 2 wks.	Endometritis with fungous growth		Atropia $\frac{1}{100}$ gr. Checked after 4th dose.

Age.	History.	Diagnosis.	Preceding Treatment.	Atropia Treatment.
3				
31	Mrs. G.—Miscarriage nine wks ago at 2d month, bleeding more or less ever since	Retained part of Placenta	Hydrastis, Ergot, no improvement	Hypo. Atropia $\frac{1}{100}$ gr., 3 doses. Checked after 1st.
4				
27	Miss C.—Has been bleeding every three weeks for 2 yrs, lasting from 8 to 10 days; flowing now for 2 wks; exhausted	Fibroid	Hydrastis, Electricity, no benefit	Hypo. Atropia $\frac{1}{100}$ less after 1st. Checked after 4th.
5				
36	Mrs. R.—Delivered of dead child 12 wks ago; bleeding off and on ever since	Subinvolution		Controlled after 36 hrs. 3 hypo. $\frac{1}{100}$ gr. 2 triturates of $\frac{1}{100}$ gr.
6				
29	Miss H.—Profuse menstruation for 6 months. Due to gonorrhœa. Bleeding now for 2 wks.	Endometritis	Ergot, Hydrastis, Sugar of Lead, no relief	Less after 2d dose. Entirely controlled after 4th.
7				
48	Irregular bleeding for 2 yrs. Now flowing for 10 days; flushes of heat	Menopause	Ergot, Hydrastis, slightly lessened	Checked after 1st dose.
8				
22	Miss H.—Criminal abortion 6 wks ago. Bleeding ever since	Retained Placenta	Medicine no control	$\frac{1}{100}$ hypo. Atropia every 12 hrs. Controlled it.
9				
35	Mrs. S.—Irregular, bleeding for 6 months, bad odor, emaciated; malignant cachexia	Malignant	Drugs of no use	Atropia $\frac{1}{100}$ gr. occasionally controlled.
10				
35	Miss S.—Menses profuse for 3 yrs. Been flowing for 2 wks	Polypi	Digitalis, Bromide of Potassium without effect	Triturates Atropia $\frac{1}{100}$ gr. every 4 hrs. controls.
11				
22	Mrs. K.—Married 4 yrs; 1 child 3 yrs. ago. Missed one menstrual period; bleeding for 3 wks.	Miscarriage Retained Secundines		Atropia $\frac{1}{100}$ gr. every 3 hrs. Controlled after 3d dose.

Age.	History.	Diagnosis.	Preceding Treatment.	Atropia Treatment.
12				
24	Mrs. G.—One miscarriage at 4th month 3 years ago. Bleeding for 10 days.	Endometritis	Hydrastis failed	Atropia, checked in 2 doses.
13				
39	Mrs. R.—Married 20 yrs; four children; last child 6 months ago. Bleeding profuse, lasting 8 to 10 days	Subinvolution		Atropia $\frac{1}{100}$ gr. 4 hrs. Checked after 2d dose.
14				
30	Mrs. H.—Children 5, miss. 2, last 12 months ago at 3d month. Bleeding off and on ever since	Retained Secundines	Sugar Lead, Hydrastis, etc.	Hypo. Atropia $\frac{1}{100}$ checked in 3d dose.
15				
23	Mary F.—Menses lasting 5 to 10 days. Profuse bleeding for 2 wks	Specific Endometritis	Astringents of no avail	Atropia $\frac{1}{100}$ gr. controlled after 4th dose.
16				
22	Miss H.—Abortion at three months 6 months ago. Bloody dischargeever since. Bleeding profusely for 3 wks	Retained Placenta		Atropia hypo. checked in 3d dose.
17				
33	Mrs. G.—Last child 13 months ago. Saw menses 9 months after child. Since profuse, lasting weeks at a time	Subinvolution		Atropia checked it.
18				
49	Mrs. S.—Irregular menses for 6 months, profuse.	Menopause		Atropia triturates checked it.
19				
25	Mrs. S.—Profuse menstruation for 6 months following birth of last child 9 months ago. Flowing 10 days	Endometritis with Subinvolution	Hydrastis, etc	Atropia controlled.

Age.	History.	Diagnosis.	Preceding Treatment.	Atropia Treatment.
20				
48	Mrs. R.—Twelve children, always regular in menses until a year ago. Irregular in time, profuse lasting 2 wks. Bleeding for 2 wks	Menopause	Nux Vomica, Ergot, Bromide Potassium	Atropia controlled.
21				
40	Mrs. G.—3 children, last pregnancy 3 years ago. Menses came on after three months, and have been continual, flowing for ten days	Subinvolution	Ergot, Hydrastis	Atropia controlled after 2d dose.
22				
22	Miss S.—Abortion 6 weeks ago. Profuse bleeding since	Retained		Atropia $\frac{1}{100}$ checked after 2d dose.
23				
38	Miss H.—Menses irregular, profuse, lasting 10 days 2 weeks; been flowing for 2 weeks	Specific Endometritis	Ergot, Hydrastis	Atropia controlled.
24				
27	Miss S.—Always had profuse menstruation lasting 10 days	Chlorotic		Atropia controlled after 2d dose $\frac{1}{100}$ gr. triturates.
25				
36	Mrs. J.—Flowing freely off and on for a year; bleeding for 2 wks	Fibroid		Atropia controlled bleeding after first dose. $\frac{1}{100}$ gr. hypo.
26				
39	Mrs. C.—Irregular bleeding for a year, profuse, bad odor; malignant cachexia	Cancer of cervix and uterus in last stages		$\frac{1}{100}$ gr. hypo. Atropia. Negative.

HYPODERMATIC INJECTIONS OF THE DOUBLE HYDROCHLORATE OF QUININE AND UREA IN THE TREATMENT OF MALARIAL FEVERS.

By Solomon Solis Cohen, M. D.,

PROFESSOR OF CLINICAL MEDICINE AND APPLIED THERAPEUTICS IN THE PHILADELPHIA POLYCLINIC, VISITING PHYSICIAN TO THE PHILADELPHIA HOSPITAL, ETC.

In *The Polyclinic* for Feb. 15, 1884, and in the same journal for Jan. 15, 1886, I recorded some observations showing the preëminent value in the treatment of malarial fevers of the double hydrochlorate of quinine and urea—*quinium bimuriaticum carbamidatum* of the German-Latin nomenclature, a salt not yet official in the U. S. Pharmacœpia, but which certainly deserves to be added by the Committee on Revision.

Subsequent experience has abundantly confirmed the opinion then expressed concerning this drug. The advantages it possesses are promptitude, certitude, and cheapness. The latter is not nearly so marked now that the tariff has been removed from quinine, but it is still an element to be considered. A single injection of 15 grains of the double hydrochlorate of quinine and urea will, as a rule, accomplish as much as the administration *per os* of 25 to 30 grains of quinine sulphate daily for seven days.

This is strikingly shown by the history of a small group of cases recently studied at the Philadelphia Hospital, in my own wards, and by the courtesy of my colleagues, in the wards of Drs. Musser and Walker. As these cases, together with some important observations we were able to make concerning the influence of the drug upon the hematozoa of malaria, will later be published in detail by the efficient and painstaking resident physician, Dr. Claribel Cone, of Baltimore, under whose direct care the treatment was carried out, I will in the present note give but a brief synopsis of their principal features.

The cases (five in number) were all in males—all had been exposed to the climate of malarial regions—and in every case the characteristic organisms were found in the blood in decided numbers.

The duration of symptoms was reported as four months in one case, one month in another case, and in the other cases from a few days to two weeks. The patients were kept without specific treatment for varying intervals, in order to establish beyond question the diagnosis and the type of fever. The paroxysms were typical, in two cases tertian, in the others quotidian. In the cases of long duration sallowness of complexion, enlargement of liver and of spleen, anemia and feebleness were present.

In each of four cases a single injection of fifteen grains was sufficient to cause cessation of paroxysms for twelve days. No difference between quotidian and tertian cases was observed in this respect. In the case of four months' duration, on the day following the injection there was a chill at the usual hour, but with lessened fever; a second injection was given, and there was no further return of the paroxysm. The concomitant amelioration of symptoms was remarkable. In one case while the 12-day period of freedom was terminated by a chill on the 13th day, a second injection was not given, and a similar period of freedom again followed.

Observations as to the relation of the organisms to chill periods and freedom periods were made by Dr. Cone, but must await publication until further researches are completed; the object of this note being simply to recall attention to the extremely great utility of a strangely neglected drug.[1]

In private practice, in urgent cases, and in any case where therapeutic studies are not a prime object, the following is the best method of using the remedy.

[1] If some "pushing pharmacist" would only mix it with an inert disguising substance, label it "Antimalaria," advertise it as a "Combination of organic derivatives," distribute "samples" and "chromos," and charge for it ten or twenty times its value, medical men would probably buy it and the editors of certain journals grow enthusiastic over its merits and the liberality of its "enterprising proprietors."

So soon as the diagnosis is established, and without reference to the time of paroxysm, a single injection of from 10 to 15 grains of the salt, dissolved in a syringeful (20 to 30 mimims) of boiled water, is given. Should a paroxysm recur at the following period, a second injection is given; and should further paroxysms be observed, injections are given in corresponding number; otherwise but three injections are given during the first seven days, and two injections during the second seven days.

After the second week Fowler's solution of potassium arsenite (about five drops t. d.) or arsenic iodide (about 1-24th to 1-12th of grain) is given for two or three weeks. The injections of the second week and the course of arsenic following are rather precautionary measures, based upon the general clinical history of malarial cases, than treatment necessitated by symptoms in the given case. With further observations, one might be willing to limit the injections to one in a week, or even one in twelve days. For the present the plan outlined is deemed safer.

Certain precautions are necessary in the method of giving the injection, which may be repeated from my former communications.

The needle must be inserted deeply; the syringe must be completely emptied before withdrawal, in order that no drop of the solution shall fall on the skin; and the point of puncture must be painted with the tincture of iodine. In the neglect of these precautions, dermatitis, cellulitis or sloughing of the skin may occur. I have not seen abscess; nor have I seen any untoward result whatever when care has been taken.

In one case the diagnostic value of the injection was tested. The patient had quotidian intermittent fever without chill. Malarial organisms were not found in the blood. No result was obtained upon injection of quinine and urea hydrochlorate. More searching inquiry elicited the fact of syphilitic infection not many months previously. Mercurial inunctions were instituted and the fever disappeared.

PRACTICAL POINTS IN THE PHYSIOLOGY OF THE UPPER AIR PASSAGES.[1]

By Alexander W. MacCoy, M. D.,

PROFESSOR OF DISEASES OF THE THROAT AND NOSE IN THE PHILADELPHIA POLYCLINIC.

In my last lecture you remember that I spoke briefly of the anatomy of the nose, of the bony and cartilaginous framework, of the turbinated bones, of the meatuses and also of the accessory cavities leading into the meatuses. To-day I will call your attention briefly to the anatomy of the tissue lining the vestibular portion of the nose, and also of that which lines the nasal chambers proper. The nasal chambers proper are what would remain were the cartilaginous portion of the nose cut away, or, in other words, the part of the nasal cavity that we find within the skull.

The vestibular portion of the nose is lined by a reflection of the cutaneous tissue of the face. This, as we proceed inward, becomes mixed in form, having some of the characteristics of both skin and mucous membrane. Before we reach the nasal chambers proper we find this mucocutaneous lining gradually blended into true mucous membrane. The mucous membrane covering the floor, roof, and septum of the nasal chambers does not differ in structure from that in other parts of the body.

The mucous membrane lining the septum is very loosely adherent over the cartilaginous portion. In operations upon the cartilaginous septum we take advantage of this and turn aside the mucous membrane, leaving it intact. It is much more adherent over the bony septum.

The soft tissue covering the turbinated bones is known under the general term of "turbinated bodies." The mucous membrane of the turbinated bodies differs from other mucous membranes. It has a peculiar and very complex vascular supply, under vaso-motor influence the blood-vessels dilate and contract rapidly. For many years it has been considered true erectile tissue.

[1]One of the series of systematic lectures on diseases of the throat and nose.

The erectile tissue so called was early appreciated as such by many observers. Dr. John Mackenzie showing that Rolfink in 1656 appreciated this anatomy as peculiar. Schneider, Ruppert and others, later Cruveilhier, Kollicker and Kohlrausch and last, but not least, Dr. Bigelow, of our own country. The anatomy described by these observers succinctly given is that beneath the superficial layer of mucous membrane covering the turbinated bones, are plexuses of blood vessels out of all proportion in number and size and after the final work of Bigelow this tissue was recognized as having the constituents of *erectile* tissue and became known as the *turbinated* "corpora cavernosa."

To-day another view obtains among some of us, not quite in touch with the former observations. For the latest opinions expressed on this special anatomy of the turbinated bodies we are indebted to Zuckerkändl in 1884. His investigations show that the turbinated bodies are composed of connective tissue. The outer surface is lined with flat epithelium, the deeper layer forming the periosteum. Between these two layers are found lymphatic tissue distributed freely and tubular mucous glands, remarkable for their length. Within this lymphoid tissue are found many venous plexuses which he names "swell bodies." Surrounding the venous plexuses are great quantities of unstriped muscular fibres.

The *venous capillaries* so intimately associated with the "swell bodies" are divided into three sets, one set being distributed to the *surface* of the membrane, another to the *glands*, and the third set to the *periosteal layer* of the mucous membrane. The capillaries distributed to the surface together with the superficial gland capillaries, form loops which empty into the veins. The deeper gland capillaries and capillaries of the periosteum pass into veins and form the "swell bodies." The blood is conveyed by venous channels in the periosteal portion of the mucous membrane to five plexuses. One going to the veins of the face, a second to the veins of the cranium, a third to the orbit, a fourth to the soft palate, and the fifth to the hard palate.

The mucous membrane covering the *inferior* and *middle* meatuses and the turbinated bones is supplied with ciliated epithelium. The mucous membrane of the superior meatus and superior turbinated which shows blind glands with pigment in them, known as Bowman's glands, is non-ciliated. There is no need of cilia here, for the upper portion of the nasal tract has not the same important physiological functions.

It is these turbinated bodies which give so much trouble in angious or soft hypertrophies. Reflex or local irritation causes them to rapidly dilate or contract. Even the application of a simple spray will cause a change of form. You have often noticed upon examining a patient when he first comes into the clinic that the turbinated tissue is swollen and pouting. Under the influence of the change of air a little later you find that it has suddenly diminished in volume. Vaso-motor changes are very active in this tissue; and it is here that we find the diseases which seem to be due to vaso-motor disturbances.

The only reason for a difference in view concerning the tissue composing the turbinated bodies is the arrangement of the blood channels. The "swell bodies" are in *limited* areas, and on account of this limitation the tissue is not, strictly speaking, erectile. It is simpler, however, to consider it an erectile tissue and treat it as such.

Owing to the close relation between the circulation of the nose and face, Seiler considers that obstructed flow of blood in the nose is often the cause of diseases of the face and external nose. The nerves supplying the nose are the olfactory, the nasal branch of the ophthalmic, branches from the superior maxillary, and branches from the spheno-palatine (Meckel's) ganglion. The branch from the ophthalmic is often the source of indirect irritation of the eye.

The *physiology* of the nasal chambers is very interesting, but I must necessarily be brief. One must bear in mind the physiological condition which should be present so that in pathological states he may avoid anything which would interfere with the normal function.

For a long time the nose was considered only as an organ of smell. All other functions were lost sight of; but of late years we have found that the nasal chambers have other functions which are more important than olfaction. The lower and middle meatuses are concerned in respiration. They give *warmth to the air inspired* through them. At one time it was thought that this warming process took place in the tissues lower down as the air passed on to the lungs, but late investigations have shown that the air is warmed almost entirely in the nasal chambers. This is an important function, for unless the air is properly warmed the necessary admixture of gases in the lungs can not take place. The distance from the vestibular portion of the nose to the posterior nares seems short and the mucous membrane insufficient for imparting the necessary warmth. But if you bear in mind the large area of mucous membrane of the scroll shaped turbinated bodies which are so richly supplied with plexuses of veins, studded, as it were, with columns of blood so much warmer than the air—little heat pipes if you choose—you will see that this portion of the nasal chamber is not inadequate for the work which it has to do.

A second function is that of *moistening the air*. It is a question whether there is much moisture given to the air in other parts of the respiratory tract. Their structure is such that they cannot give off much moisture or much heat. But it has been well demonstrated that moisture is given off by these little columns of blood of which I have just spoken. There is a constant exudation or transudation of the watery part of the blood from the capillary walls. About one pint is given off in twenty-four hours.

Filtration is a function of minor importance. This is accomplished in part by the hairs of the vestibule, the cilia and the moist mucous membrane. These rid the air of the grosser particles and prevent them from passing much beyond the posterior nares. It is a common experience in one's office to find particles of soot in the nose of a patient who has just come from a railroad train.

Before *olfaction* can take place free respiration is necessary. The air is the common carrier of odoriferous particles. In order to get a stronger current of air we make an extra respiratory effort—we sniff. The upper half of the middle meatus, the whole of the superior and the upper third of the septum are concerned in this function. The olfactory nerve divides into from fifteen to twenty bundles, which pass through the openings in the cribiform plates of the ethmoid. These branch and again divide into little twigs or terminals, which are finally distributed to the free surface of the mucous membrane. This anatomical arrangement gives a large surface for contact with the odorous particles. The terminal filaments are supplied with bulbous expansions—little storage batteries. The impulses are sent to the nervous center and the sensation of smell is appreciated. For this it is necessary that the mucous membrane of the olfactory region be moist, so that the odorous particles may be dissolved and so come in closer contact with the nerve endings.

Loss of smell may be due to some obstruction which prevents the entrance of a free current of air; or to atrophy of the mucous membrane or to some disease of the nerve center. A diseased nerve also gives *perversion of smell.* You may have complete loss of smell due to accumulation of crusts upon the mucous membrane, which prevents the nerves from receiving any impulses. Can the sense of smell be restored? This question arises in our practice every day. If the loss is due to a mechanical obstruction which can be removed this sense can be restored. In cases of atrophy which have gone on for years, accompanied by destruction of the nerve endings, the loss is permanent, and you can hope for no improvement. If there is only partial atrophy, odors may be appreciated to a certain extent. The different theories of olfaction are interesting from a scientific standpoint, but they are not of practical value here.

The nasal chamber is concerned in the *pneumatics of the ear.* It takes care of the atmosphere of the middle

ear through the Eustachian tube. You might call it a governor of the ear. In this way an equilibrium of pressure between the external air and that within the middle ear is kept up. Catarrhal inflammation of the nose gives rise to various ear affections, and nasal obstruction is a menace to the healthy condition of the middle ear, and for this reason demands our most earnest consideration.

The last function of the nasal chambers of which I shall speak to-day is that of giving *resonance* to the voice. *Tone* is produced in the larynx. An expiratory blast from the lungs passing by the free edge of the vocal cords causes them to vibrate. These vibrations set in motion the air. With the laryngoscope you can almost see the whirring motion, which reminds you of little electric fans. The amplification of the tone takes place either in the mouth or in the nose. When vowels are spoken the mouth acts as a cavity of resonance. M N and N G are amplified in the nose and on this account are called nasal consonants. In many of the consonants both the mouth and the nose form a resonant cavity. In the oral tones the palate shuts off the nose from the pharynx. In the nasal tones the root of the tongue is approximated to the soft palate, closing the passage into the mouth so that the tone passes into the nasal chambers. The individual character of the voice depends as largely upon the size and conditions of the nasal chambers as does the individual face upon the conformation of the external nose. If there is interference with the passage of air through the anterior portion of the nose, a very different voice is obtained from the "dead voice" which is non-resonant and is due to obstruction in the naso-pharynx. If a small amount of air passes into the nose the tone has some resonance; but it has the peculiar sound which we call nasal. The nasal tones of which we commonly speak are those in whose production the nose has failed to take a proper part.

Singers are often unable to sustain their voices and speakers frequently have difficulty. This may be due to faulty methods or more generally to obstruction in the throat or nasal

chambers. If it is due to an obstruction which can be removed you can restore the voice.

All these functions which I have mentioned have a bearing upon pathology, for unless you understand the physiology you cannot fully appreciate the pathological conditions which you meet. A knowledge of the physiological functions will help you to do *careful, rational* work. Rash procedures have been much too frequent. If you bear constantly in mind the normal functions you will be efficient but not officious workers in rhinology.

TREATMENT OF THE SEQUELS OF CORNEAL ULCERATION.

By G. E. de Schweinitz, M. D.,

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Reported by

Florence Mayo, M. D.,

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We come now to the consideration of the sequels of corneal ulceration, for it stands to reason that after every lesion of the cornea there must be some scar tissue, which, according to its density and general character, receives the name of nebula, macula or leucoma, and according to the degree and extent of the bulging of the corneal layers, is called partial or complete staphyloma.

In partial staphyloma some effect in reducing the bulging is possible by the continuous application of a pressure bandage and the instillation of eserine. Should this fail, or should the eye become intolerant of the bandage, and yet the intraocular tension continue to press forward the layers of the cornea, it is advisable to perform a small iridectomy, selecting for excision that portion of the iris which is opposite to the clearest part of the cornea. In total staphyloma, with practical blindness, both for cosmetic purposes and for the sake of removing a possible source of

sympathetic irritation, evisceration or enucleation is indicated, either of which operations, it seems to me, is preferable to the more old-fashioned, but at one time often performed, method of abscission. Both abscission and evisceration are useful on account of the movable stump which they furnish. The former, however, does not entirely remove a source of irritation, and the latter is sometimes an unsatisfactory operation, although it is much performed abroad and often with brilliant success.

In nebulous conditions of the cornea, very decided improvement in vision will follow a conscientious massage, aided by the application of an ointment of the yellow oxide of mercury, one grain to the drachm, a small portion of which is introduced beneath the lid, and rubbing movements made over the surface of the cornea in a circular and radial direction, the *séance* lasting from a minute to a minute and a half. It requires considerable patience on the part of the patient and the doctor to hope for successful results, but in my own practice, as well as in that of many of my colleagues, I have seen, in selected cases, very considerable improvement in visual acuity. For example, in one patient, in about nine months the gain in the right eye had been from $\frac{5}{30}$ to $\frac{5}{10}$, and in the left eye from $\frac{5}{50}$ to $\frac{5}{30}$. There was, of course, a corresponding diminution in the visible opacity of the cornea. In another case with corneal nebula, the result of a burn of the right eye with lunar caustic, the original vision was $\frac{5}{35}$. Massage with the yellow oxide of mercury in two months restored to the injured eye an acuity of vision equal to $\frac{5}{7.5}$ and part of $\frac{5}{5}$, oblique light revealing only the faintest blue haze in the membrane.

It stands to reason, however, that the method is suited only to the milder degrees of cicatricial change, or in other words, to those which we designate as nebulous. It can do no good in the dense, white scars which are called leucomas. For these not much can be done in the way of removal. If there is clear cornea to the side, an optical iridectomy may be performed, and at one time there was hope

that the operation revived by Von Hippel, of trephining the center of the cornea directly through the leucomatous area, and inserting a graft of rabbit's cornea in place of the circle thus removed, might meet with success. In most of the instances, however, the results have been more than disappointing. As a cosmetic operation, tattooing of the leucomatous area has been tried, and sometimes with success, even to the extent of using dyes which in color imitate the tints of the iris.

Were I again to summarize this matter, I would suggest in partial staphyloma of the cornea the faithful trial of a pressure bandage and the instillation of eserine, to be succeeded in the event of failure by an optical iridectomy, or possibly an operation for partial staphyloma, the method of performing which I shall describe at a subsequent lecture; in dense leucomas again an optical iridectomy, if there is sufficient clear cornea for this purpose, with a thought of tattooing for cosmetic purposes; finally, in nebulous corneas, the faithful trial of massage, after the manner of Pagenstecher, and usually with the aid of the salve which bears his name.

I should not close this description without a reference to the use of galvanism for the removal of corneal scars. This is an old method, recently much advocated by Alleman and other American surgeons. A suitably prepared electrode is connected with a battery, the cathode being applied directly to the anesthetized cornea, and the anode to the soft tissues of the cheek. Usually a current of from 1 to 1¼ milliamperes gives the best results. The *séance* lasts, at the beginning, for one minute at a time and is gradually increased to three and four minutes. Great care should be taken not to produce too much reaction.

PRACTICAL DETAILS IN THE APPLICATION OF PLASTER OF PARIS BANDAGES.[1]

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The bandage being ready for use, it will be important to consider the preparation of the parts to be bandaged, so as to have the necessary material required for that purpose in readiness for use. The objections to applying the plaster of Paris bandage directly to the skin of the patient are threefold; first, that any hair that may be upon the parts will be caught and firmly imbedded in the plaster, as it sets, rendering the subsequent removal excessively painful to the patient, and very difficult; the second objection is that the bony prominences being brought into contact with the unyielding surface of the plaster of Paris would be apt to produce abrasions of the skin, or ulceration, besides being very painful and rendering the continued use of the apparatus impossible; and the third is that the plaster of Paris would set or become hardened much more slowly from being in contact with the, more or less, oily skin.

It therefore becomes important to resort to the use of some material which will, at once, remove all the objections to which I have just alluded. A non-absorbent, or a slowly absorbent, material would remove the first two objections but not the third. Therefore such material as unbleached muslin, or cheese cloth, or any similar material, would not be suitable for the same reason that they were inapplicable in the preparation of the bandage itself. The use of gauze employed in making the bandage, would remove all of the objections except the second, and that only in part unless quite a number of layers were used.

I have found that the use of the patent absorbent lint is a most desirable material for this purpose. It is cut into

[1]An evening lecture delivered at the Polyclinic Hospital. In the February number similar details are given for the preparation of the bandage.

bandages of the required width, by means of a sharp knife, in the same manner that the buttercloth is prepared, and has been found to answer every requirement. Its capability of absorbing water has been found to enable the plaster of Paris bandage to set more rapidly than when other materials have been used.

Even after all the precautions already taken, it will be found that the plaster of Paris will harden very slowly, requiring twenty to thirty minutes or more, if plain water, either hot or cold, be used. Experience has taught that the use of a large handful of ordinary table salt, in a basin of water, assists in the hardening process, lessens the time required in setting, and prevents to a great measure, the subsequent crumbling which is such an annoyance to the patient.

Cold water is to be preferred, because in the process of reabsorption of the water of crystallization, and getting back to its mechanical condition of stone, heat is generated to a sufficient degree to be positively painful in patients who are especially susceptible to heat. Therefore if hot water had been used to begin with and supplemented with the heat generated and already referred to, it would become unbearable to almost any one. Plaster of Paris should not be placed in water until just at the time it is to be used. The best rule is to have it immersed at the same time that the patent absorbent lint is being applied to the parts. There should be enough water to entirely cover the bandage, and about one or two minutes will be required, according to the size of the bandage, for it to become thoroughly saturated. As soon as the bubbles of air cease rising to the surface of the water, a thorough saturation has been accomplished, and the bandage should be taken out in both hands and gently but firmly squeezed so as to get rid of the excess of water, and the end of the bandage loosened. In this condition it can be carried across the room, if necessary, without dropping any plaster on the floor, and it is sufficiently moist to render its easy and rapid application. Should the ravelings of the sides of the bandage gather in a

tangle during the application, they may be cut loose by a pair of scissors which is preferable to attempting to pull them out, for in the attempt to pull them out more threads are disengaged and will cause more delay in trying to get rid of them.

While the bandage is being applied the parts to be covered should be held accurately in the position in which they are to remain, and either with the disengaged hand, or better by an assistant, the plaster should be rubbed thoroughly so as to squeeze the still soft mass into all of the meshes of the bandage, with the object of making a homogeneous and compact mass, composed of the plaster of Paris, with the threads of the bandage material running through it. If the bandage has been properly made, and applied as directed, it will never be necessary to rub in any additional cream, for the additional plaster of Paris will simply give increased weight and bulk without increasing the strength of the bandage. In most cases, four layers will be ample to rigidly restrain any part of the body, and the additional layers will not add to its efficiency. I cannot too strongly urge the necessity of leaving bare the extremity of the limb to be covered with the plaster of Paris because it affords an indicator of the condition of the circulation beneath the bandage.

In applying the plaster of Paris dressing to the leg or foot, the ends should all be left so that they can be watched without disturbing the apparatus, and should the circulation become impaired to a sufficient extent to indicate decided pressure, the apparatus should be removed at once, otherwise sloughing and gangrene may result. It is also important in holding the dressing, while it is drying, to avoid pressure at any point, as would be made if the fingers were to press into the bandage, because these finger marks make elevations upon the inside of the bandage, which may not only be sources of great annoyance to the patient, but be productive of serious injury. Firm gentle pressure by the entire hand will avoid this, and make a smooth exterior to the bandage. It should be borne in mind that plaster of

Paris always shrinks in setting, and it is therefore very important to apply it loosely to allow for this.

Various methods have been devised to facilitate the removal of this form of fixed dressing, a few of which I shall speak of now. The simplest method of doing it is by the use of a knife, when the bandage is wet, or freshly applied. If the blade of the knife is held obliquely, and great care is exercised, the bandage may be cut down and the edges which have been turned up in so doing may be pressed back into position. If great care is not taken, there is always danger of cutting the patient, and to avoid this numerous methods have been recommended. Dr. A. T. Steele, of St. Louis, has devised a special tool to be slipped under the dressing and carried down as the knife proceeds in its work. Upon this the knife would strike when the dressing was cut entirely through. To avoid the necessity of purchasing the special appliance for the purpose, the same may be accomplished by placing a slip of metal, one inch wide, and long enough to extend the entire length of the part to be covered, and being placed between the skin covering and the plaster of Paris, the knife may be used with perfect fearlessness and the plaster thereby easily removed.

The plaster of Paris, however, sets so very quickly that it is often found very difficult to cut through its entirety, upon its becoming very hard. If this is the case, or if the bandage is to be cut several days after it has set, the line of incision may be softened with vinegar, or the same object may be accomplished by the use of water. The disadvantages of this method is, that, in the case where the apparatus is to be reapplied, the edges are left in a rough condition, necessitating trimming, thereby making the case very much smaller.

It has been recommended that fine steel wire be used between each layer of the plaster of Paris as it is being applied, and after the plaster has become thoroughly set and hard and dry, that these wires should be torn out, one by one, carrying with them the overlying fibers of the band-

age material. I have, however, found the most satisfactory way to be by the use of a saw and a strong pair of shears. The saw cuts down quickly through the plaster of Paris and there is an absence of resistance upon reaching the skin protector. Any points that are still resistent may be cut through with the shears, and suffers thereby, no loss of material, so that the cast may be reapplied and fit accurately the parts from which it has been taken.

If it is desired to have a small hole of 2 or 3 inches in diameter, through which to supply subsequent dressing to the wound, a large wad of cotton of about the size of the fist is to be applied where it is desired to have the hole. This will make a decided mound when the plaster is finished, and makes it very easy to cut with a knife into the cotton. The cotton being removed it will be found that the edges are all turned up, making a convenient receptacle for retaining subsequent dressing. When a plaster of Paris dressing or jacket is to be worn for a prolonged time, or where it is to be reapplied, all the edges should be carefully trimmed and bound.

This binding may be done by ordinary rubber adhesive plaster or by a new plaster of Paris bandage. The objection to the rubber adhesive plaster is that it becomes very dirty, aud it gives an unsightly finish to the pure white of the plaster of Paris. The binding by the plaster of Paris bandage is in keeping with the rest of the apparatus, and answers every purpose. After the apparatus has become thoroughly dry, hard and firm, it may be protected by varnishing it, and this has the additional advantage of keeping it clean. Then by a damp rag, the entire surface may be rubbed whenever it is necessary. Should any part of the apparatus begin to crumble, it would be a waste of time to attempt to patch it, because the new material would be on the outside only, and the break would continue to increase. It will save time to make an entire new cast, strengthening it at the point where the previous break has taken place.

Favorite Formulas.

To Dilate the Pupil.—In the normal eye wide dilatation of the pupil may be secured by mydriatic solutions much weaker than those required to paralyze the accomodation, or commonly employed in the treatment of inflammatory affection. Thus a solution of

Atropin 1 part, [1 grain.]
Distilled water 2000 parts, [4 fluid ounces]

can cause full dilatation and maintain it for many hours. Such a solution is best where it is desired simply to maintain dilatation of the pupil with as little other influence on the eye as possible, as in opacity of the centre of the lens or cornea. For this purpose it may be instilled once in every one, two, or three days.

When it is desired to dilate the pupil for a brief period, as for diagnostic purposes, the slowness of the recovery from atropin is a serious objection. It is then better to use

Homatropin hydrobromate 1 part, [1 grain.]
Distilled water 500 parts, [one fluid ounce.]

A single instillation of this will usually be followed by a return of the pupil to normal in twenty-four hours. It however at its maximum effect abolishes entirely the reaction of the pupil to light.

A mydriatic that gives in the dark room the widest possible pupil for ophthalmoscopic examination, and relaxes satisfactorily the contracted pupil of old people is the ordinary solution of cocaine.

Cocaine hydrochlorate 1 part, [2 grains.]
Distilled water 30 parts, [1 fluid drachm.]

At the same time it does not abolish the reaction of the pupil to strong light, and therefore causes less inconvenience when the patient is exposed to it; and its action passes off in a few hours, while the power of accommodation remains practically unimpaired.

A single drop of either of the above solutions will suffice

but they are all rather slow in their action, requiring an hour or more to produce the maximum effect. If it be required to dilate the pupil quickly, duboisin sulphate, or hyoscyamin hydrobromate may be used in solutions of the same strength as that of homatropin referred to above. Such a solution will fully dilate the normal pupil in 10 to 20 minutes.

Where dilatation of the pupil is to be secured in the presence of plastic iritis, or other considerable acute inflammation of the eye, very much stronger solutions must be employed, and their instillation repeated as often as possible without causing too violent symptoms of systemic poisoning by the drug. In iritis a good strength is:

Atropin 1 part, [1 grain.]
Distilled Water 60 parts, [1 fluid drachm.]

Duboisin and hyoscyamin are probably as effective as atropin, but are to be employed in solutions of half the strength of the atropin, on account of their greater liability to cause constitutional symptoms.

In any case before using any dilator of the pupil the presence, or immanence of glaucoma should be carefully excluded.

EDWARD JACKSON.

Current Literature.

Salicylates for Pleurisy with Effusion.—Dr. George Dock (*Therapeutic Gazette*) believes that Salicylic acid and its salts are among the most effectual agents in the treatment of pleurisy with effusion. In effective doses the remedy is harmless and with proper selection of the preparation, and care in administration, causes little or no discomfort to the patient.

Salicylates act most promptly in pleurisy with serous effusion, of recent origin or of long standing; but they are efficient in simple dry pleurisy, and often act favorably in secondary pleurisy. There is no evidence that they are useful in suppurative cases.

The drug acts as a diuretic, but may have an effect on the pathological process, or on the cause of the disease. Salicylates have a more marked action in pleurisy than have the diuretics commonly so-called. The duration of the treatment with salicylic preparations is less.

The remedy can be used at the earliest period, and favorably effects all symptoms. It may be given in the form of the acid, or any of its salts, in doses of a drachm of the former, or 1 to 2 drachms of a salt daily. In ordinary cases it is not necessary to give the larger doses, and 60 to 90 grains of sodium salicylate, or salol daily may be considered full beginning doses, to be diminished one-third or one-half after the effect is manifest. The ordinary precautions must be observed in giving the drugs, and during their administration the total amount of urine should be measured daily.

Symphisiotomy, or Pubotomy.—The operation of dividing the symphysis of the pubic bones to permit their separation and the consequent increase of the pelvic diameters in cases of very difficult or impossible labor, has suddenly become popular since the reading of the paper of Dr. Harris upon it at the last meeting of the American Gynecological Society; and already many successful cases have been reported.

Dr. J. Edwin Michael reports (*American Journal of Obstetrics*) a successful case done on a rhachitic negress, four feet six inches high, seventeen years old. The conjugata vera measured $2\frac{3}{4}$ inches. She had been in labor twenty-four hours. The operation was done with an ordinary curved probe-pointed bistoury, using a large curved grooved director as a guide. The separation when the incision was first made was about one-half or three-quarters of an inch. The child was easily extracted. The operator was amazed at the pubic separation which at the highest point was found to be two and seven-eighth inches. On the twelfth day after the operation the patient could walk well and firmly. Within a month she walked up and down stairs

and at the time of writing walks as firmly as before the operation. The child died on the third day, the death being due to pressure which had occurred previous to delivery, doubtless because the operation had been postponed over night. There was some meningeal hemorrhage, some superficial extravasation of blood, a clot at the base of the skull, and extravasation in the spinal canal in the dorsal region. The lungs were filled with hemorrhagic infarctions. The head of the child measured: occipito-mental $5\frac{3}{4}$ inches, occipito-frontal $4\frac{15}{16}$ inches, suboccipito-bregmatic $4\frac{3}{8}$ inches, biparietal 4 inches, bitemporal 3 inches.

Dr. Michael thinks that one can only appreciate the importance of the Galbiati knife if he has attempted to do the operation without it.

He believes that there are certain other cases in which symphysiotomy is more important than in contracted pelves. These are cases in which, from a bad presentation of the head, delivery becomes impossible at a stage in which it would be equally impossible to do a Cesarean section. These cases are represented by face presentation, chin posterior. Where the chin fails to rotate to the front it has been the custom to do craniotomy. Dr. Michael suggests that instead of a craniotomy, symphysiotomy be done, thereby relieving the woman of danger and delivering alive the child which we would otherwise have to kill. He has demonstrated the feasibility of symphysiotomy in such cases by experiment upon the cadaver.

Dr. Charles P. Noble, of Philadelphia, reports (*Medical News*) a case done in a woman who had previously been delivered by Cesarean section and induced premature labor. Difficulty was experienced with the Galbiati knife on account of the scantiness of the ligamentous structures, the knife becoming wedged between the bones. The child was doing well and the mother doing the housework for her family of six a few weeks later.

Dr. Harry McKennan (*Medical News*) also reports a successful case of symphysiotomy which occurred in private practice. Mrs. S., thirty-one years old, $4\frac{1}{2}$ feet tall, of an

average weight of 102 pounds, and with an antero-posterior pelvic diameter of $2\frac{3}{4}$ inches, had been delivered twice previously, and each time of a dead child, craniotomy having been necessary. Dr. McKennan attempted to use a strong probe-pointed bistoury, but found that the union between the pubic bones was too firm to be overcome by such a knife and was compelled to use a narrow probe-pointed metacarpal saw. The pubic bones gaped about three inches.

The patient is now able to be about the house and expresses herself as feeling as well as ever. The child which weighed eight pounds at birth is well and healthy.

During 1892 symphysiotomy was done at least forty times, with but one death among the mothers.

The following is the list of American operations in chronological order: Jewett, of Brooklyn; Hirst, and Broomall, of Philadelphia; Michael, of Baltimore; Noble, of Philadelphia; Springle, of Montreal; McKennan, of Paris, Ill.; Garrigues, of New York; Duff, of Pittsburg; Lusk, and Coe, of New York.

Tuberculosis of the Female Generative Organs.—Dr. J. Whitridge Williams, in the *Johns Hopkins Hospital Reports* gives the following summary concerning tuberculosis of the female generative organs:

I. Genital tuberculosis may occur at any age from 10 weeks to 83 years, but usually between the 20th and 40th years.

II. It is usually secondary to tuberculosis elsewhere, but in a considerable number of cases is primary in the genitals.

III. Its frequency is much greater than is usually supposed. In our experience, about 8 per cent of all appendages removed for inflammatory diseases are tuberculous; in other words, every 12th case of adherent tubes and ovaries, or pus tubes, is of tubercular origin. Only 25 per cent of the cases are recognized on microscopic examination and the other 75 per cent occur as "unsuspected tuberculosis."

IV. The order of frequency for the various portions of the

genital tract is tubes, uterus, ovaries, vagina, cervix, and vulva.

V. Tuberculosis of the cervix no doubt occurs more frequently than is usually supposed, and may be mistaken for carcinoma.

VI. Tuberculosis of the tubes and uterus is usually limited to the mucous membrane, and occurs as miliary tuberculosis, chronic diffuse tuberculosis, or chronic fibroid tuberculosis.

VII. Genital tuberculosis may be due to direct infection from without. The occurrence of infection by coitus is very probable, but has not yet been conclusively demonstrated. The majority of cases are secondary to tuberculosis elsewhere, and are due either to infection from the blood or the neighboring organs. Even in the apparently primary cases it is impossible to exclude blood infection.

VIII. The symptoms are not characteristic. In primary cases they may be entirely absent, and in secondary cases over shadowed by those of the primary affection, and the involvement only recognized at the autopsy.

IX. The prognosis is always grave.

X. Primary cases can only be diagnosed by the discovery of tubercle bacilli in the secretions or the demonstration of the histological characteristics of tuberculosis in the scrapings from the uterus. The co-existence of tubo-ovarian masses with phthisis or tubercular peritonitis should at once arouse suspicion as to the tuberculous nature of the infection.

XI. Ulcerations of the vulva, vagina and cervix should be treated with applications of tincture of iodine and iodoform, and excised if isolated and intractable to treatment.

Tuberculosis of the uterus should be curetted and iodoform introduced; if the disease recur, the uterus should be removed per vaginam.

Tuberculous tubes and ovaries should be removed by laparotomy, unless contraindicated by the general condition of the patient (advanced phthisis). Tubercular peritonitis and the early stages of phthisis are not contraindications to laparotomy.

The results after operations for this class of cases certainly afford encouragement enough for us to continue to advocate their operative treatment. In a number of cases the women have been perfectly well four and five years after the operation (Wiedow and Hegar).

In our cases the results have not been unsatisfactory, for of the four cases from whom we have heard since their departure from the hospital, three were greatly improved, while the fourth, who had dullness at the apex of one lung, states that she is better than before the operation. All of these cases were, however, operated upon too recently to justify any definite statement as to their ultimate recovery.

Symptoms of Hip Joint Diseases.—Dr. A. M. Phelps (*New England Medical Monthly*) concludes that the important early symptoms of hip joint diseases occur in the following order:

1. Limiting of motion. 2. Deformity with apparent lengthening or real shortening. 3. Limp. 4. Atrophy (in bone disease). 5. Pain in knee (with absence of knee joint disease). 6. Pain on joint pressure. 7. Night cries in absence of other joint disease. 8. Flattening of buttock with change in gluteal fold. 9. Heat. 10. Swelling.

Paralysis Agitans.—Dr. Allen J. Smith (*Daniel's Texas Medical Journal*) says that in the treatment of paralysis agitans none of the remedies which have been suggested have accomplished as decided good in his experience as atropine. He has used the drug several times in this affection with at least temporary benefit, and is disposed to regard it favorably. He would prescribe the alkaloid—doses of one-hundred-and-twentieth of a grain thrice daily, by the mouth for the sake of convenience—increasing the dose as the tolerance of the case permits. Almost immediately there may be expected some amelioration in the paretic symptoms, the drug apparently overcoming to a greater or less degree the mild spastic condition of the muscles which underlies the paresis. Its effects are unfortunately not as permanent as might be desired, nor does the improvement progress without limitation. When Dr. Smith is persuaded that no more

effect may be expected from the atropine he orders warm baths daily, with the use of the Faradic current, perhaps some such alterative as arsenic, silver or mercury. Strychnine has been advised by numerous writers and good results claimed for it; but the author cannot corroborate those claims and regards the drug as unsuited to an affection whose chief symptoms seem to point to uncontrolled spinal influence. On the contrary, in its opposite, eserine, he would expect to meet the fulfillment of more of the requirements of the disease, although he is unable to make any distinct statements as to its practical worth. Tonics of iron and bitters are frequently indicated and complicating depressions of the digestive or circulatory functions; but the real treatment in any case is almost purely speculative, and aside from the exercise of the most earnest care in diet and in the conduct of the hygienic surroundings, is without a positive indication as is sought in scientific medicine.

Book Notices.

NOTES ON THE NEWER REMEDIES, THEIR THERAPEUTIC, APPLICATIONS AND MODES OF ADMINISTRATION.—By David Cerna, M. D., Ph. D., Demonstrator of Physiology in the Medical Department of the University of Texas, etc., 12 mo. 177 pages. Philadelphia W. B. Saunders, 1893.

The energy of the manufacturing chemist and his professional allies seems to be chiefly devoted to the multiplication of drugs of possible, but as yet unproven, therapeutic value. The intelligent use of this host of claimants for attention is impossible to the busy practitioner, while pharmacopœias and dispensatories, with the conservatism that should characterize such works of reference, know them not. Often the only available source of information has been the blatant circular of the maker and vender. To meet a real need of the profession come Dr. Cerna's "Notes" concerning composition, physical properties, solubility, therapeutic applications and modes of administration.

The collection is of course a motley one, and in it we regret to find a note on "Stenocarpine," without any hint of the fact that it is only a fraudulent mixture of cocaine and one of the stronger mydriatics. E. J.

OTOLOGY AND LARYNGOLOGY.

The "special week" in Otology and Laryngology at the Philadelphia Polyclinic to be given May 1st to 6th, will present most of the salient points of each of the related specialties. Upwards of sixty hours will be occupied, nearly half of them with clinical work in the rich services of the Polyclinic, the Children's and the Howard Hospitals with collection and grouping of interesting cases in addition to the usual excellent material.

The various operative measures will be discussed, demonstrated on the cadaver and as fully as possible upon actual cases requiring them—the anatomical side of the study will be fully shown by means of numerous normal and pathological preparations, the microscope and the stereopticon. Clinical conferences will be held over especially suggestive cases or on topics chosen by the class, in order to bring out every aspect of the subjects by questions and comparing experiences.

The teaching will be by Professors Cohen, MacCoy and Watson, and Drs. Freeman, Cleveland, and in Laryngology and by Profs. Burnett, Randall and Seiss and Dr. Stout in Otology. A large part of the time will be given to actual clinical study and manipulation and each student is advised to bring his own brow-mirror, etc., so as to be equipped with the accustomed forms which habit has made the most convenient.

It is intended that there shall be much of the highest interest to the specialist already well posted and experienced; while for those less advanced there will be abundant opportunity to learn and practice the best methods of study and work to compress into the busy hours of six days as much practical personal instruction as could elsewhere be obtained in as many weeks. The actual hours of instruction will be more than as much as are generally given in a six weeks post graduate course; while the systematic treatment of topics and the grouping of cases will more than double the value of the time employed.

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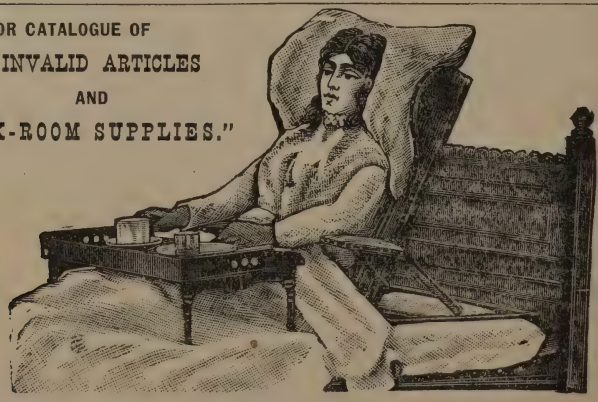

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THE

PHILADELPHIA POLYCLINIC.

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THE INDICATIONS FOR THE ENUCLEATION OF AN EYE.

BY EDWARD JACKSON, A. M., M. D.,

PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC, SURGEON TO WILLS EYE HOSPITAL, ETC.

An eye may be removed because its retention would entail, (1) serious disfigurement, (2) severe and persistent pain, (3) probable loss of vision in the other eye, (4) danger to life.

To justify the removal for the first reason the eye must have permanently lost its function, must be hopelessly blind. This having been clearly ascertained the decision will depend on the patient's preference. In stating the cosmetic advantages of an artificial eye it is well to be cautious. Although the makers of artificial eyes can match the general appearance and coloring of an eye so closely that no ordinary observer can see any difference, a hypercritical patient can by long and interested observation discover a basis for complaint; while the movement of the artificial eye is never perfect, and there is liable to be some narrowing of the space between the lids.

The condition of severe persistent pain not to be otherwise permanently relieved is not liable to arise except in an eye which has lost almost or quite all power of vision. Chronic glaucoma either primary or secondary and recurrent attacks of inflammation of the deeper coats are the morbid conditions that commonly bring it about.

The decision as to whether an eye should come out must here, as in all other cases, rest finally with the patient. But in explaining to the patient the situation and the facts on which the decision must be based, the surgeon is fully justified in refusing to consider the persistent use of narcotic drugs as a justifiable alternative. If the eye be sightless and the seat of pain likely to persistently call for the use of analgesic drugs, or impair the health or pleasure of the patient it should be removed.

The need for removal of an eye to save life arises when the eye is itself the seat of a malignant new growth, or when such a growth is so situated that it cannot be completely extirpated without such removal.

The more common cases are those of sarcoma or glioma of the eye-ball. Though tuberculosis of the deeper structure of the eye may demand it. Here, except perhaps in the rare case of sarcoma of the iris completely removable by iridectomy, a positive diagnosis should be followed at the earliest possible moment by the enucleation of the eye, irrespective of the power of vision that it may still retain. Even if the diagnosis be somewhat doubtful as to its malignancy, a growth that is likely to destroy sight in any case, and may threaten life, should be promptly extirpated. If sight has already been lost, any considerable possibility of malignant disease justifies enucleation.

However, the common reason for enucleating an eye is the danger that its retention will excite disease in the other eye. In such a case we term the eye from which the disease originally proceeds, the *exciting* eye, and that which becomes secondarily affected the *sympathizing* eye. To this class of cases, about 80% of the enucleations performed last year in the Polyclinic and at the Wills Hospital belong.

This branch of the subject takes its importance from the fact that such sympathetic disease is almost invariably excited by eyes that have been rendered almost or entirely blind, and, that in a large proportion of cases, it leads to complete blindness of the second eye.

Where sympathetic disease has actually occurred and the

patient consults the surgeon on account of it, the indications are usually tolerably clear. If the exciting eye has lost all power of useful vision while the sympathizing eye still retains vision, or fair prospect of restoration to usefulness, the exciting eye should always be promptly removed. This is somewhat at variance with what has been the teaching of not a few authorities, who have stated that the removal of the exciting eye at a certain stage of sympathetic inflammation tends to aggravate it. Larger experience, however, shows that this supposed aggravation was merely a coincidence, an increase in the violence of the disease independent of the operation.

The statistics given by the Committee of the British Ophthalmological Society, prove that by enucleation of the exciting eye, before vision in the sympathizing eye has been lost, the chances of retaining what vision it still possesses, or of bringing about a more or less complete restoration to the normal are notably enhanced.

When, however, the sympathizing eye has already been so badly damaged as to have the worse vision of the two, and the exciting eye is and has been for some time free from active symptoms, the removal of what is the better eye, to save what is already the worse, would, of course, be irrational. Whenever some vision remains in the exciting eye the case must be decided by weighing the proportion of useful vision in the two eyes and recognizing that enucleation of the exciting eye at an early stage, materially improves the chances of the sympathizing eye, yet it does not give any certain assurance of saving it. In general, we would endeavor to save the best eye, or the one with the best chance; remembering, that in a doubtful case, it is better to take the chances of both, than of one alone.

The great field for enucleation of the eye, however, is the prevention of sympathetic disease, and, here, it becomes most difficult to lay down positive rules. In general, the loss of an eye by spontaneous disease without perforation of its coats is not followed by sympathetic trouble. There are, however, a few cases in which the first eye being lost by disease

of the iris, ciliary body and choroid, with secondary involvement and opacity of the vitreous and perhaps crystalline lens, subsequently, the second eye becomes involved in a similar process and is likewise lost. In these cases it seems quite probable that the disease of the second eye is truly of the nature of sympathetic inflammation, but the recorded clinical experience of such cases is not yet sufficient to assert that this is the fact.

Sympathetic disease generally follows perforation of the eye-ball. Occasionally it does so when the perforation is the result of inflammation of the cornea. But cases of this kind are rather infrequent and occur only when certain chronic changes have ensued in the deeper tissues of the exciting eye. When, for other reasons, we have to consider the enucleation of an eye lost by corneal disease, the possibility of its causing sympathetic trouble may also enter into our calculations if by an accompanying irido-cyclitis the deeper tissues have also been seriously damaged. This will be indicated by the impairment or total loss of light perception, and by the diminished tension of the eye-ball.

The class of cases in which the question of enucleation must always be considered are the cases of traumatic perforation of the eye with destruction of sight. If a foreign body has entered through the sclera and remained in the globe, the chances of total destruction of the eye and sympathetic involvement of its fellow are greatest.

It is probable that sympathetic ophthalmia, or the lesions of the exciting eye, which give rise to it are dependent on infection through the wound. Such infection is much more likely to occur when the injury falls upon an exposed portion of the globe. The portion exposed is the cornea and a narrow strip of the sclera surrounding it. This latter covers the region of the ciliary body.

Wounds through the cornea, to reach the deeper tissues of the eye, must pass through the anterior chamber practically a great lymph space, with comparatively free drainage, and through the lens which does not usually suffer from the infection that elsewhere causes inflammation. On the other

hand, through the ciliary region, the deeper coats of the eye are reached without the intervention of any lymph space or protective lens mass. Again the ciliary body, richly supplied with vessels and nerves, presents conditions favorable to the most serious results from such infective traumatism. Whether or not these are the only reasons, the clinical fact remains that sympathetic inflammation is, in the larger number of instances, caused by wounds of this region.

Even with penetrating wound of the ciliary region and the retention of a foreign body within the eye-ball, the occurrence of sympathetic disease is not in any case certain. So that in no instance can we positively say to the patient: "If you do not have this eye removed, you will lose your other on account of it," but in this class of cases the probability of such an event is so strong, that the surgeon is justified in urging with all his influence the removal of the dangerous eye, provided, it is also a useless eye, and often will do best for himself and his patient by refusing to treat the case, unless his advice on this point is taken.

In a considerable class of cases, however, the question of enucleation at the time of injury, or shortly after, may be best decided on the probability of the patient remaining continuously under competent observation. If this can be ensured, and the proper treatment instituted as soon as the first evidence of sympathetic trouble appears, it is permissible, or even advisable for an eye to be retained that otherwise should be promptly removed.

In deciding the question of removal, it is essential to bear in mind that under the head of Sympathetic Ophthalmia, have frequently been confounded two distinct conditions—*Sympathetic Irritation* and *Sympathetic Inflammation.* A condition resembling irritation, if not indeed identical with it, is frequently a precursor of sympathetic inflammation, but in a large number of cases, in which sympathetic irritation occurs there is no danger of sympathetic inflammation.

Sympathetic inflammation is more liable to be set up by the presence of a foreign body, and particularly of certain classes of foreign bodies. The old fashioned metal gun cap

was one of these and has made a prominent record in the annals of Sympathetic Ophthalmia.

Sympathetic inflammation is more likely to be caused shortly after the injury, that is, within a few weeks or months, and is comparatively rare when the injury is of some years standing. Indeed, there are very few cases of well described sympathetic inflammation occurring more than two or three years after the original injury. I have reported[1] one such arising from a foreign body which had been retained without symptoms for six years, and a few cases are on record from the effects of foreign bodies that had been retained much longer. Sympathetic inflammation is also much more likely to arise when the exciting eye remains the seat of chronic inflammation, or when the inflammatory process has recently been re-established in it, though here, again there are exceptions. Bearing in mind then the possibility of sympathetic inflammation in such eyes, we may in general regard it as not likely to occur after an injured eye has remained quiet and caused no annoyance for a period of two years, or longer.

On the other hand, sympathetic irritation if it does not arise immediately after the occurrence of the injury, is more likely to develop many years later. Most of the cases of sympathetic ophthalmia occurring twenty, thirty, or forty years after the injury of the exciting eye, if carefully examined, will be found to be cases of sympathetic irritation.

As a preventative measure we do enucleation only where sympathetic inflammation is feared. Sympathetic irritation not going on to any actual organic change, and being capable of complete and prompt relief at any time by the enucleation of the exciting eye, there is no reason to practice enucleation merely to prevent it. Here the need for enucleation arises only after the symptoms have declared themselves. These symptoms are generally excessive lachrymation, dread of light, coming on and greatly aggravated by any attempt to use the eye, hyperemia of the eye, especially on attempted use, and diminished power

[1] Transactions Philadelphia County Medical Society, 1887.

of accommodation. With a view to detecting the latter symptom at the earliest possible moment, if the case should in future become one of sympathetic disease, the surgeon should, where one eye has been destroyed, always have careful measurements of the accommodation of the remaining eye made for purposes of future comparison.

When symptoms of sympathetic irritation appear, and the exciting eye is blind or nearly so, as such eyes nearly always are, it should be promptly enucleated. A resort to this measure will always be necessary for the cure of the irritation, and until it is resorted to the symptoms of irritation will generally continue to grow worse and worse until they prevent all use of the better eye. It is also not to be forgotten that these symptoms of irritation may in some cases be merely the forerunners of the more serious sympathetic disease, in which case, every hour that the exciting eye is retained increases the danger.

To summarize, the indications for enucleation are:

1. The presence in the eye of a malignant new growth, as glioma, sarcoma, or tuberculosis. This indication is imperative no matter how much vision the eye retains.

2. The presence in the eye of a foreign body, with irido-cyclitis. If the injury be recent and the inflammatory process still active, and the patient cannot remain under observation, an eye with anything less than thoroughly useful vision should be sacrificed.

3. The presence of a foreign body in a blind eye.

4. Blindness with diminished tension of the eye-ball, following perforation either by traumatism or corneal ulcer most urgent after traumatic perforation of the exposed portion of the sclera.

5. Blindness the result of irido-chloroiditis without perforation of the eye-ball, if the patient cannot remain under observation.

6. Sympathetic inflammation, provided the exciting eye does not possess vision sufficiently good to be weighed against the chances of the sympathizing eye.

7. The actual presence of sympathetic irritation; not the

risk of it, unless the patient is likely to be out of reach of surgical aid.

8. Persistent pain in a blind eye, sufficient to annoy its possessor or tempt him to the use of analgesic drugs.

9. Serious disfigurement of a blind eye, even if free from pain or risk of causing sympathetic disease.

THE ASEPTIC PREPARATION OF SOME OF THE MATERIALS EMPLOYED IN SURGERY.[1]

By Leon Brinkmann, M. D.,

INSTRUCTOR OF SURGERY, IN THE PHILADELPHIA POLYCLINIC, ASSISTANT DEMONSTRATOR OF ANATOMY, UNIVERSITY PENNSYLVANIA.

It affords me great pleasure to give you a short talk to-day on one of the most important subjects of the surgery of the present day, viz., the aseptic preparation of the materials employed in wound treatment. I wish to impress on you the importance of carrying out every detail in preparing these materials; the slightest oversight necessarily, will prevent the object to be attained, asepsis. The materials used in aseptic surgery to-day are; sponges, cat-gut, silk-worm gut, cotton, wool, silk for ligatures, drainage tubes and gauze. To prepare these substances aseptically heat forms the most convenient as well as the most efficacious means at our command. An ordinary large size Arnold sterilizer will meet all the indications if moist sterilization is desired.

To prepare the various gauzes. They all go through the same process up to the point when they are impregnated with the antiseptic desired. The first step in their preparation is the removal of the natural grease contained in the fabric; this is accomplished by boiling the gauze in a solution of bicarbonate of soda for two or three hours, after which it is to be throughly washed in distilled water to remove the soda. It is then placed loosely in the sterilizer and steamed for from five to six hours, when it will be ready

[1] Lecture at the Polyclinic Hospital.

to receive its final treatment, the impregnation with the antiseptic.

If the gauze is to be medicated with *iodoform* it should be weighed and the amount of the following substances added to each pound of gauze after it has gone through the foregoing process; one and one-half ounces of iodoform three ounces of glycerin and sufficient alcohol to saturate the gauze. It should be preserved in sterilized air tight vessels until required. If the gauze is to be impregnated with *corrosive sublimate* 1–2000 it should simply be placed in a solution of the required strength and allowed to remain in it for at least 24 hours prior to its use.

Gauze may also be used to replace sponges. Under such circumstances, it should be cut into convenient sizes and 18 or 20 layers stitched together, after which the sterilizing process may be carried out.

Sponges: To prepare ordinary sponges, they should first be well beaten to remove the calcareous matter, then steeped in a 10% solution of hydrochloric acid in water and allowed to remain until all foreign substances have been removed; they are then to be thoroughly washed in distilled water to remove the acid and allowed to dry; when dry they may be placed in a sterilizer and allowed to remain there for ½ hour at a temperature of 175° F. From the sterilizer they are placed in a corrosive sublimate solution 1–4000 and allowed to remain at least 24 hours before using. The corrosive sublimate solution renders the sponges darker in color if they remain in it for any considerable period of time.

Cotton or Wool: It is far easier to prepare both the absorbent cotton and the wool by baking in an oven for four or five hours; this will suffice to render it thoroughly aseptic. The other methods of preparation are both difficult and often unsatisfactory.

Cat-gut: It depends on the kind of cat-gut used how it shall be prepared. If the ordinary violin string is used it will be necessary to remove the varnish which covers it. To accomplish this the gut should be soaked in ether for 4 or 5 hours, when it may be placed in the essential oil of juniper

berry and allowed to remain from 24 to 72 hours depending on the size of the gut; this removes the fatty element and, as well, renders it aseptic, as the essential oils all stand high in the list of antiseptics. The gut should be preserved until used in absolute alcohol. Corrosive sublimate and carbolic acid destroy the texture of the gut. Other methods have been suggested, but are more complicated and simply arrive at the same result.

Silk Sutures: Silk sutures and ligatures should be wound on glass spools and placed either in boiling water 10 minutes previous to the operation or they may be placed in a sterilizer and allowed to remain 15 minutes. For their preservation until required, these may also be placed in absolute alcohol to which may be added 2% salicylic acid, if desired. *Silk worm gut* should be boiled for at least 10 or 15 minutes and then placed in a wide stoppered bottle containing either a 5% carbolic or 1–2000 bi-chloride of mercury solution.

Drainage Tubes: Two kinds of drainage tubes are used at the present day, bone and rubber. The *bone* drainage tube may be prepared from the hollow bones of fowls, the ribs of monkeys, etc. The calcareous salts are removed by steeping the bones in dilute hydrochloric acid (10%) until they become softened, they should then be placed in Juniper oil to remove the fats and kept in alcohol till required. In selecting *rubber* drainage tubes care should be taken to select pure rubber free from sulphur; these should be sterilized in the ordinary manner and kept in bottles containing 5% carbolic solution, or better still, rubber drainage tubes may be kept singly, each in a separate test tube, this would avoid the danger of contaminating a large number, (when handled) as might occur were they kept together.

Protective: Protective after the grease has been removed from its surface, should be immersed in a bi-chloride or carbolic solution until required.

THE VALUE OF ANESTHETICS IN THE TREATMENT OF LABOR.

By Edward P. Davis, A. M., M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF INFANCY IN THE PHILADELPHIA POLYCLINIC, ETC.

It would seem a statement beyond dispute that the use of anesthetics is clearly indicated in the majority of cases of labor. If anesthetics are agents designed to relieve pain, it is difficult to conceive of a condition more appropriate for their use than is labor. The physical and mental distress which frequently accompanies this physiological function certainly demands the employment of agents similar to those which relieve the patient of suffering, during a surgical operation. The prejudice against the use of anesthetics in labor is a remnant of the old superstition which taught that it was wrong to interfere with natural suffering, a belief fortunately long since abandoned.

Many shrink from the use of anesthetics through fear of the depressing influence of those agents upon the action of the heart, and their supposed influence in promoting postpartum hemorrhage. To those who are not experienced in diagnosis, the rapid, small pulse of an excessively nervous patient seems a contra-indication to the employment of an anesthetic, the inference being that such a pulse is indicative of a diseased heart. If physical examination of the heart be made in these cases, there is generally found no evidence of valvular disorder, or extensive pathological lesions of the heart-muscle. When such a pulse is accompanied by the hysterical globus and protestations on the part of the patient that sudden exertion or fright causes embarrassed respiration, the casual observer may be deceived.

Even in cases where valvular lesions are present in pregnant women, an anesthetic has been shown to be a most efficient aid in promoting speedy and successful labor. If we recall the physiology of labor, we obtain a rational indica-

tion for the use of anesthetics. The nervous supply of the uterus is such that this organ is capable of acting in a rhythmical and efficient manner without the direct stimulation of voluntary impulse; on the other hand, the action of the uterine muscle may be inhibited by severe mental impressions, whether of pain, anxiety, or surprise occasioned by an unexpected happening.

The cessation of labor pains, following the arrival of an unknown and unexpected physician, or the entrance of a strange nurse into the patient's room, is a familiar example of this inhibitory action of the cerebrum. A further example is found in the cessation of labor pains in nervous patients who suffer exceedingly during labor. The word *pain* must here be employed in its usual meaning of conscious suffering, and not with reference to uterine contractions. In these cases, the conscious suffering or pain experienced by the patient is so great that cerebral inhibition temporarily stops the contractions of the uterus. It will, therefore, be observed that an agent which temporarily removes the inhibitory action of the cerebrum leaves the ganglionic centres of the spinal cord free to furnish the uterus with the normal stimulation essential for rhythmical contraction of the uterine muscle.

In prolonged and difficult labor, some of the greatest dangers which threaten the mother and child may be lessened by the skilful use of anesthetics. The element of shock may be thus lessened or prevented. Exhaustion of the uterine muscle, the greatest predisposition to hemorrhage, is far less frequent when anesthetics are properly employed. Injurious pressure upon the child less often occurs when the forces of labor are regulated and controlled by partial anesthesia. The facility afforded in diagnosis and operative treatment by the physician following the use of an anesthetic, is a fact too familiar to require discussion.

The disadvantages of anesthetics—namely, their depressing influence and tendency to favor post-partum hemorrhage—depend upon the method of their use. If pushed to complete and profound anesthesia, the patient, of course, is depressed,

the uterus will contract imperfectly, and serious complications may be directly caused or induced. But this is no more true in the practice of Obstetrics than in the practice of Surgery. The careless administration of an anesthetic during a surgical operation may result in a condition of depression which may oblige the surgeon to temporarily discontinue the operation; oozing and secondary hemorrhage are favored by such improper anesthesia, and certainly the surgeon does not abstain from the employment of anesthetics because their improper use complicates his practice.

A further, although less important, advantage gained by the use of anesthetics during labor is the diminished tendency to laceration and injury to the birth-canal of the mother. It is often possible to so conduct a patient's delivery as to avoid extensive injury by the relaxing effects of an anesthetic. In addition, at the moment of delivery the patient may be kept in a manageable state, and spared the suffering incident to the termination of labor.

In prolonged and difficult cases of labor where no great disproportion exists between the pelvis and the fœtus, an anesthetic will often prevent the necessity for the use of forceps. This may be considered a disadvantage to the physician, as diminishing the opportunities for the exercise of his operative skill and hence lessening his revenue from practice, but in the interests of mother and child, the advantage to them is considerable. An illustration of our meaning may be found in the following case:

A multigravida of deficient muscular and bony development, but of highly nervous organization, was found to have a pelvis symmetrically contracted in all its diameters; the fœtus was in normal presentation and position, namely, its back to the mother's left side, its head presenting at the brim of the pelvis. The history of previous confinements showed that the usual increase in the size of the second and third children had been observed, the present pregnancy being the fourth. Six weeks before confinement, the patient was carefully examined by pelvimetry, palpation and auscultation. It was then found possible to bring the head to engage by

gentle pressure at the brim of the pelvis. A prognosis of possible spontaneous labor was made, and the pregnancy allowed to go to term. The first stage of labor was of considerable length, its exact duration not being ascertained, as the patient concealed the occurrence of labor pains. Early in the second stage of labor the head engaged at the brim of the pelvis, but its descent was delayed. The element of conscious suffering was very considerable, and seemed to inhibit the best action of the uterus. The patient naturally assumed a sitting or semi-sitting posture until fatigue compelled her to lie down. Chloroform was then inhaled at the beginning of each pain, under which the pains became strong and efficient, and the head passed the pelvis brim without especial difficulty. A few pains brought the birth of the child, and the subsequent course of the labor was without incident.

While the child was passing the brim of the pelvis, pressure was made above the pubes downward and backward upon the fœtal head, and the uterus was roused to contraction by gentle friction. The uterus contracted vigorously after delivery, the patient suffering from after-pains for a considerable time. It was thought that possibly clots had accumulated in the uterus, causing the after-pains, and hot antiseptic douches were given to remove such clots, but they proved to be absent, and the lochial discharge was normal in character. Examination of the child showed that its head was proportionate in size to the mother's pelvis, its diameters corresponding very closely to those ascertained by pelvimetry.

We have in this account of what is apparently a normal labor certain pathological factors of direct practical interest: First, is the contracted pelvis whose diameters, although slightly lessened, were yet sufficiently reduced to seriously interfere with the course of labor, and increase its dangers. In addition, there was present a marked deficiency in muscular development, accompanied by an abnormally sensitive nervous system, which predisposed to muscular exhaustion and its accompanying complications. Then, as a factor

influencing the patient's mental condition, we had the dread of labor and fear of anesthesia resulting from a diagnosis incorrectly made by a former medical adviser of cardiac disease, and hence danger in the use of an anesthetic. The combination was certainly sufficient to have occasioned serious complications during labor. We believe that the scale between normal and complicated labor was turned by the careful use of the anesthetic, and have no doubt that the experience of others amply bears out our own experience in this direction.

In the more serious complications of labor, requiring operative procedures, discrimination must be made in the selection of an anesthetic; thus, we prefer chloroform in the performance of version, in the delivery of a placenta retained by spasmodic contractions of the uterus, and in any condition in which a well marked contraction-ring threatens uterine rupture. On the other hand, in the usual employment of the forceps in dealing with post-partum hemorrhage, where interference is necessary and an anesthetic required, and in abdominal section for the complications of parturition, we prefer the administration of ether. These conclusions are the result of experience and close observation, and are not arrived at from purely theoretical considerations of the action of these various agents.

PULMONARY EMPHYSEMA[1]

By Augustus A. Eshner, M. D.,

INSTRUCTOR IN CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC.

Gentlemen :—This young man of 18, a machinist's apprentice, presents himself for pain in the mid-dorsal region of the spine; which, he states, has been present for a month, following exposure to the cold, while heated, and is aggravated by deep breathing. There is also cough, with discolored expectoration, though there has never been hemoptysis. There has been no loss of flesh and no chills or

[1]A Clinical Lecture delivered at the Polyclinic Hospital.

fever or sweats. The appetite is more than good. The tongue is flabby and coated. But for a little acidity, with pyrosis, digestion is well performed. The bowels are regular. The feet are not, and have not been swollen and there is no derangement of micturition. Shortness of breath is not present.

The symptoms are not distinctive. The man has a myalgia—a term that I employ from the want of a better one. The condition is common in those who, while heated or perspiring, are exposed to low temperatures and to wet. It is also seen in those who are engaged in pursuits that make great demands upon the muscular system. I am not willing to admit that it is rheumatic; and in the absence of a definite pathology I am for the present satisfied with the designation, muscle-pain.

Not in all cases is the pain induced or aggravated by exercise; on the contrary, in some cases, the victims suffer most when at rest and particularly in the recumbent posture. In these latter it would seem as if activity of the circulation were requisite to carry off the immature products of deficient metamorphosis upon the presence of which the symptoms may be dependent.

We shall now proceed to make a systematic physical examination of the chest. It is well to always do this, even in cases in which intrathoracic disease is not suspected —in the same way as we examine the urine of all cases, without reference to the presence of symptoms suggestive of disease in the genito-urinary tract.

We ask the man to strip to the skin, for no examination can be thorough if the bare chest be not exposed.

The first step is to practise inspection. We see at once that the man is exceedingly well developed and well nourished. The chest is symmetrical. Below the outer third of either clavicle we note a small fossa, but for this we find explanation in the excellent development and anatomic relations of the great pectoral muscle.

As the man breathes practically automatically we are struck by the fact that there is but little movement of the

chest—much less than we would expect in so well developed a subject.

On deep respiration you observe that, while inspiration is active and profound, expiration is delayed and tardy. We look for the apex-beat of the heart in its usual situation, but fail to detect it. Neither do we observe pulsation in any other portion of the anterior aspect of the chest. In the epigastrium we note the recession and advancement related to the respiratory act—which you see are here more marked than in the thoracic cage itself. Having the man turn around, we inspect his back in the same way as we inspected the anterior aspect of his chest.

Symmetry is here again present. We do notice, however, that the left shoulder slopes in a greater degree than the right and we at once ask the man if he is right-handed or left-handed, and are told that he is left-handed.

As we view the man from in front, from the back and from either side we observe that the antero-posterior diameter of the chest is abnormally long in relation to the transverse diameter. A horizontal section of the chest would present the outline of a circle rather than of an ovoid.

After having practised inspection, I usually practise palpation of the precordium. Palpation for vocal fremitus I practice later. In practising palpation I prefer first to use the entire palm of my hand for purposes of gross localization. When once I have found the apex-impulse or perhaps some abnormal pulsation, I proceed to a further study of the tactile phenomena with the pulps of my fingers.

On placing my hand over the precordium, I feel a faint and uncertain impulse—a manifestation quite out of consonance with what one would expect in a muscular and apparently robust man who is engaged in fairly laborious work and who, as he volunteers, indulges in gymnastic exercises.

We have gone far enough for a provisional diagnosis

to have suggested itself—as a matter of fact this had suggested itself after inspection had been completed, but it is this jumping at conclusions against which I specially desire to caution you. One naturally follows lines of thought suggested by experience and observation, but the tendency to follow only one or a few of these lines is a danger against which the careful clinician is ever on his guard. Do not be misled or have your attention diverted or wholly absorbed by characteristic or so-called pathognomonic signs. Disease is a complex process and the physical phenomena to which it gives rise are correspondingly varied. Besides, the existence of an individual affection does not exclude the simultaneous existence of other affections, and the field of observation should be as wide as possible. Further, the sequels of some diseases are of greater immediate and vital importance than the primary disorder.

We go on and next percuss. Above the left clavicle I elicit a note that without further observation I call good. The normal pulmonary resonance is not an unvarying and arbitrary phenomenon. Each one of us, as a result of experience, fixes upon a mental standard, but it must never be forgotten that each individual is in this respect, a law unto himself. A normal condition of the pulmonary tissues may be associated with so many different conditions (normal and otherwise) of the structures within which they are enclosed, such as appertain to thickness and elasticity and mobility especially, that the results may vary in otherwise similar cases. It must be remembered that what we call the pulmonary resonance is dependent not solely upon the conditions present in the pulmonary tissues, but also in part upon those related to the pleura, the ribs and their cartilages, the fascia, the muscles, the skin and the subcutaneous connective tissues.

Having elicited what in the individual case seems to be a "good" sound, we take it as an index with which we compare the sound developed on percussion elsewhere. If there be a difference in the sounds elicited at corresponding points of opposite sides of the chest, we know that there

must be some difference in the physical conditions, for the interpretation of which we must study all of the phenomena in a given case.

To obtain accurate results from percussion, it is important to make comparisons of corresponding portions of the chest; to be sure that the finger is well applied to the surface, with the same degree of firmness and over the same structures (bone or intercostal space); and that the same kind of a blow is struck with the percussing finger [plexor].

It is best to place the percussed finger [pleximeter] parallel with the adjacent ribs. The blow is struck from the wrist. The degree of force used will depend upon the end aimed at. The resonance of superficial structures is studied by means of superficial percussion; that of deep structures by means of deep percussion.

In the practice of percussion I prefer my fingers to other instruments. A sense of varying resistance is conveyed to the percussed finger that is lost if a wooden or ivory or rubber disc be employed as a pleximeter.

As we percuss the chest in this case in various situations we find that the note is perfect. The limits of hepatic and splenic percussion-dulness are normal, but those of the cardiac dulness are diminished laterally and superiorly. Even in the area of greatest impairment of resonance in the precordium, we fail to find the flatness that is, under normal conditions, invariably present and is dependent upon the approximation of the heart to the anterior wall of the chest.

On auscultation we find the inspiratory murmur a little roughened, while the expiratory murmur is prolonged. There is one characteristic to which I wish to call your attention, and that is the continuousness of the respiratory murmur. Ordinarily, the inspiratory murmur and the expiratory murmur are readily separable, but in cases of the kind to which this one belongs I have often found the murmurs continuous, expiration being sometimes broken up into a series of puffs. The action of the heart is rhythmical and the sounds are clear. Vocal resonance and fremitus present no deviation from the normal.

With the evidence before us we are compelled to make a diagnosis of pulmonary emphysema, in association with a catarrhal condition of the air-passages. Though the man is not conscious that he is hoarse, you note that his voice is husky.

The *diagnosis* is based upon the size and shape of the chest, the character and extent of the respiratory movement, the clearness of the percussion-note, the feebleness of the cardiac impulse and of the apex-beat, both upon inspection and palpation, and the diminished area of cardiac percussion-dulness. That the emphysema is not advanced is indicated by the quality of the percussion-note and the absence of pronounced symptoms.

Causation. What has brought on these conditions? In his work the man is exposed to dust, the inhalation of which gives rise to cough. The expulsive effort at coughing, with closed glottis, leads to an increase of the pressure within the alveoli, the walls of which from the frequent repetition of the act yield somewhat and dilatation results. In a vicious circle the dilatation of the alveoli aggravates the bronchial catarrh, and so the process is kept up. In addition, the man tells us that he indulges in athletic exercises for several hours nightly.

What is the *prognosis*? Favorable. The man should recover entirely. The degree of change is not great. The heart is competent.

What is to be done?

First of all the man should avoid exposure to dust and to all other irritative atmospheric influences. This is not always easy of accomplishment, because patients cannot always afford to give up their means of livelihood. The man can, however, take great care to breathe exclusively through the nares; by so doing he will filter the greater portion of the dust in the air breathed. Then he must reduce his gymnastics within the limits of moderation. Feats that demand the expenditure of great effort should be eschewed. Undue exposure to cold and wet should be

avoided and the general health should of course be conserved.

What is to be done medicinally? In the present case we shall prescribe five grains of ammonium chloride and five grains of sodium iodide in two drachms made up of equal parts of syrup of senega, syrup of tolu and syrup of wild cherry to be taken every three hours.

When dyspnoea is decided I am in the habit of giving additionally two and a half grains of sodium iodide three times daily. Strychnine is also a useful adjuvant. The digestion must be maintained and the bowels kept free. In these cases expiration into rarified air is capable of doing good.

THE TREATMENT OF SO-CALLED INGROWING TOE NAIL.

By John A. Batton, M. D.,

of Uniontown, Pa.

After witnessing a number of operations for this frequent and painful affection, and examining the nail, or portions thereof after removal, one cannot but think the term is a misnomer.

On first inspection you see what is apparently a deeply incurved or ingrowing nail, but, if you compare it with its fellow of the opposite toe, and take into consideration the hypertrophy of the adjacent soft parts, you will at once see that it is the hypertrophy and not the nail that causes the deformity.

The disease begins at the margin of the nail as an abrasion of the skin caused, perhaps, by pressure from a tight fitting shoe. From this focus of inflammation comes the proliferation of cells and the consequent hypertrophy until the whole side and end of the toe is involved in the inflammatory process and is exceedingly painful and tender.

With a knowledge of the value of continuous pressure in

the relief of inflammation, especially when it is superficial; witnessing the effect of Martin's bandage on varicose ulcers of the leg, with their consequent induration, first led me to think of the elastic bandage for the removal of the hypertrophied mass overlying the toe nail.

The method I have used for several years is as follows. Dust over the granulations at the bottom of the sulcus with aristol or iodoform and on top of this put a small piece of lint or cotton.

Take a piece of rubber bandage ½ inch wide and 12 to 14 inches long and, if it is the inside of the toe that is affected, carry the bandage over the nail toward the inflamed structure. This, as you will observe, will have a tendency to carry the mass away from the nail. Beginning at the extreme end of the toe, carry the bandage back, with such pressure as the patient can comfortably stand, until the whole area of inflammation is included. Fasten it by means of a light gum band or tapes fastened to the end of the bandage.

The patient is then able to wear his shoe and attend to his ordinary duties.

The bandage can be removed at night and reapplied by the patient himself, if desirable, the first thing in the morning.

At the end of a few days you will notice a marked reduction in the size of the toe, and at the end of a short period be able to demonstrate for yourself whether an "ingrowing toe nail," is in reality, an ingrowing toe nail.

Favorite Formulas.

For Anemia.—In several cases of malarial intoxication of long duration, in which anemia has been marked and in which after cessation of acute symptoms a course of arsenic has failed to bring about marked improvement, rapid return of corpuscle and hemoglobin to an approximately

normal standard has followed the administration of a solution prepared as follows:

Take: Tincture of ferric chloride 2 fluid drachms.
Diluted phosphoric acid 3 fluid drachms.
Glycerin 6 fluid drachms.
Solution of Hydrogen dioxide (Oakland C. C.) enough to make 3 fluid ounces.

Two teaspoonfuls in 3 ounces of water before meals thrice daily.

This is slightly modified from a formula of B. W. Richardson's. It will be practically stable for the few days during which the 3 ounce mixture lasts. It is useful in chlorosis and anemias generally.

S. Solis-Cohen.

Current Literature.

Treatment of Pneumonia.—Dr. William Pepper (*University Medical Magazine,*) says that early, on the first or second day, in vigorous young adults, with good circulation, full pulse and high blood pressure, we should not hesitate to perform venesection. During the early stage the lung is in a state of active congestion, and whatever treatment may best serve to reduce this congestion at once will unquestionably serve to ameliorate the entire course of the disease. As far as croupous pneumonia is concerned, he has no doubt of the ultimate recognition of venesection as one of our most powerful means of doing good.

In cases however of the asthenic type it cannot be used; and if good is to be accomplished it should only be employed during the stage of congestion of the lungs under any circumstances. What we accomplish by venesection may possibly be attained also by the use of wet or dry cups over the affected area, or by the administration of such drugs as aconite and veratrum viride, which dilate the blood paths in the abdomen and elsewhere, and reduce the action of the heart, so that pulmonary congestion is thus relieved.

At the same time the local treatment of the chest itself is of extreme importance. Formerly the application of blisters or of cups was largely practiced, but now we have given these up and prefer to use such measures as will keep the skin of the thorax constantly moist and warm. For this purpose jacket poultices have been frequently used, and undoubtedly, in children, are of great value, but in adults the difficulty of keeping them adjusted, and warm without greatly inconveniencing or disturbing the patient, militates most powerfully against their use.

Dr. Pepper prefers jackets made of cotton batting, and lightly quilted. These are light, thick, and being made in two pieces, one fitted to the front, the other to the back of the chest, and tied with tapes in various places, are most easily applied and removed. They should be put on immediately after the first symptoms of the case have manifested themselves, and should be kept constantly applied until late in convalescence.

He has no doubt that the warmth and the constant moisture insured by these applications has much more influence in determining a happy outcome of the cases of pneumonia than we might be disposed to claim were we asked to prove the manner of their beneficial action. Certain it is that cases of croupous pneumonia treated in this manner are much less liable to extension of the process and to intensity of involvement of the diseased area, than such as are not similarly protected.

In the later stages of the disease, when the lung has become solidified by fibrinous exudate within the air vesicles, remedies are required to soften and favor the expulsion of the exudate. Of such none are more efficacious than the ammonium salts, either the chloride or the carbonate, the latter being preferred where stimulation is specially desired. At the same time we find it necessary to guard, by every detail of careful nursing, against any effort of the patient which might weaken the heart, and if weakness of the pulse or sharpness of the first heart sound should be detected, cardiac stimulants will be required. The carbo-

nate of ammonium, whiskey or brandy, digitalis and strychnia are all good cardiac stimulants. When there is decided circulatory weakness we can rarely dispense with alcohol, but it is a mistake to think that every case of croupous pneumonia demands its use.

Hysterical Rapid Respiration.—Dr. S. Weir Mitchell (*American Journal of the Medical Sciences*) describes the breathing in cases of this kind as largely upper costal, sometimes exclusively so. It is exceptional to find the relative share, as between chest and diaphragm, preserved. As a rule, the breathing is slight in amount—that is, superficial, but without appearance of effort.

Usually, or early in the case the patient is ignorant of the existence of the symptom. When this knowledge is once acquired the respiration rate is increased by excitement, even by the mere approach of nurse or doctor. In certain persons the symptom occurs only just after sleep, and may be quite absent in sleep—indeed, it is usually so.

In some cases this symptom is almost the only distinct expression of hysteria, and may not be present at all until the patient is emotionally excited. The number of respirations goes up and down rapidly, and without any marked coincidental change of pulse.

This type of breathing is not a possible voluntary product. The effort of a healthy person to breathe as fast as these patients breathe causes exhaustion, and the graphic record is irregular and unlike that of hysteria. Cases in males are more rare and cannot always be with certainty regarded as hysterical.

In some forms of insanity we may have rapid breathing, but the type has, in all such cases seen as yet, been normal and not merely costal, or with scarcely visible abdominal movement. Thus in wild mental excitement from any cause, and in acute mania, the respiration may rise to forty or higher, but, as a rule, the heart is then also in too rapid motion, and the chest movements are merely exaggerations

of the normal action and never peculiar like those seen in hysteria.

Some of the most puzzling diagnoses we are called upon to make, are those in which some accident, as a serious fall, has left the patient palsied or unconscious. Occasionally the rest of the symptoms which appear grave, are betrayed as hysterical by the rapid rate of the respiration—a thing so constantly overlooked that, save in acute pulmonary diseases the condition of respiration is rarely stated.

The Prevention and Treatment of Cholera by the Naphthols.—Dr. D. D. Stewart (*American Journal of Medical Sciences*) believes that the most successful mode of coping with cholera infection—undeveloped or in the early stage of the disease—is one directed at the *materies morbi* while yet the ailment is local in habitation, before systemic intoxication, the result of absorption of chemical poisons formed by the spirillum is decidely manifest.

It occurred to Dr. Stewart that beta-naphthol, an impure form of which is called "hydro-naphthol," would perhaps fulfil all indications. It is related to phenol, belonging to the similar coal-tar group; is but slightly soluble in water and is both non-irritant and non-poisonous in quantity much more than sufficient to thoroughly disinfect the bowel against the ordinary putrefactive organisms. In addition, it does not readily decompose, and would, therefore, be carried unchanged, even in moderate doses, to the affected part of the bowel in cholera, without absorption occurring.

Dr. Sternberg has carried out a series of very complete experiments with these drugs, and reports alpha-naphthol and beta-naphthol as having about the same antiseptic and germicidal value. In the proportion of 1:16,000 both prevent the development of the cholera spirillum in peptonized beef tea, while 1:24,000 fails to prevent development. In the proportion of 1:3,000 both destroy the vitality of the cholera spirillum in bouillon cultures, twenty-four hours old, after two hours contact, while 1:4,000 fails to destroy this micro-organism in the time mentioned. 1:2,000

destroys the cholera germ by fifteen minutes exposure, but fails after ten minutes contact. Benzo-naphthol has no germicidal power, probably because it is insoluble in water.

Five grains of naphthol, if in solution would be required to render the entire small intestine antiseptic against the cholera spirillum, while about forty grains under similar conditions would be germicidal. Though the maximum medicinal dose of beta-naphthol ordinarily necessary is placed at one gramme (15 grains) or, daily, four grammes (one drachm), a much larger quantity than this, if necessary, may with safety be taken.

As alpha-naphthol is of disagreeable taste and is said to be somewhat irritating to the mucous membranes in full doses, purified beta-naphthol is to be preferred. The dose of either beta- or alpha-naphthol as a prophylactic against cholera during exposure, should be about five to ten grains three to four times daily, best taken *very finely pulverized*, perhaps with white sugar as the excipient.

The use of Atropine in Diseases of the Eye.—Dr. Charles M. Thomas (*Hahnemannian Monthly*) calls attention to the most unfortunate results which have arisen either from the failure to employ mydriatics, of which the sulphate of atropine stands as the type, or, from their exhibition under circumstances where they are positively contra-indicated.

He formulates the following rules for the application of atropine. They accord with general experience. How do they accord with homeopathic theory?

1. Atropine may be employed to *advantage* or its use be *absolutely demanded* in all inflammatory and traumatic conditions associated with photophobia, lachrymation and pain, more or less impairment of vision, circumcorneal redness, dimness of cornea, or iris, or both, *plus a contracted pupil* (spasmodic or otherwise), and this picture would cover fairly well iritic and corneal inflammations.

2. The *avoidance* of atropine is *imperative* in all cases associated with photophobia, lachrymation and pain, more or less impaired vision, a circumcorneal redness, a steamy,

insenitive cornea, plus a dull, *dilated iris*—and this picture would correspond sufficiently well to the ordinary inflammatory glaucoma.

In fact, for all practical purposes, so far as the general practitioner is concerned, the distinction might, in a general way, be safely narrowed down to this:

A *contracted pupil* calls for or justifies the use of atropine. A *dilated pupil* is a distinct warning against the use of atropine; since glaucoma is the only inflammatory affection, excepting serous iritis, in which the pupil is found enlarged.

Medical Jurisprudence of Alcoholic Inebriety.—Dr. T. D. Crothers (*International Medical Magazine*) groups the facts and certain suggestions as to the medical jurisprudence of alcoholic inebriety, as follows:

The number of inebriates which comes under legal notice is steadily increasing. The methods of treatment are practically failures in every sense. Alcohol is a paralyzant on body and brain, acting upon the senses first, then upon the reason, and finally causing palsy of the higher brain centres. Many forms of alcoholic injuries occur, of which trance, epilepsy, paralysis, traumatism, insanity, are common. Heredity, training and surroundings are active forces which lead up to alcoholic excesses.

The continuous use of spirits numbs and breaks up the higher brain centres, and all persons who use alcohol in excess have lessened and impaired responsibility. The natural tendency of all persons who are damaged by alcohol is to lawlessness and crime.

The error of regarding all persons as sane who continually poison themselves with spirits results in an increase of crime and the production of a degenerate class. Courts and juries judge of these cases from theory and not from facts. Such cases should be examined by a medical commission, and their conclusions should be final in the evidence.

Military hospitals should be built from the license fund and supported by the labor of inebriates sent to it for life or a period of years. All inebriates should be regarded as

insane and irresponsible and should be forced to go into military hospitals. They should be treated in the same way as cases of infectious disease are treated.

The medical jurisprudence of inebriety promises more for the solution of the alcoholic question than any other means

Iodoform Injections in Local Tuberculosis.—Dr. George Woolsey (*N. Y. Medical Journal*) reports several cases of local tuberculosis successfully treated by iodoform injections.

Iodoform as an injection in local tuberculosis was first employed in Billroth's clinic by Mikulicz, who reported, in 1881, on two cases of fungous joint disease treated by injections of a twenty per cent. solution of iodoform in ether. Since then this treatment has been employed in Billroth's clinic, with some modifications, for over ten years. Billroth's recommendation alone, when he say "the results have surpassed my keenest expectations," is enough to encourage one to give it a trial. The use of iodoform injections in surgical tuberculosis has spread widely over Germany and France.

As the effect of the injections of iodoform it was found that, first, the tubercle bacilli constantly disappear. Further, the growth of cells of the tubercles becomes more sparing and then stops altogether, and an exudation, rich in cells penetrates and loosens the tubercular tissue, and results in its disappearance. Healthy granulation tissue forms in its place or beneath it, and displaces it.

The cause of the above named changes is the killing of the tubercle bacilli, and this is due not to a caustic or inflammatory destruction, but rather to a specific antitubercle bacillary action of iodoform.

Ether was the first substance used as a solvent, with or without alcohol, and the solution varied from five to twenty per cent. in strength, five to ten per cent. being the strength generally used. Of the five per cent. strength up to 200 c. c., of the ten per cent. up to 50 c. c., were used.

The advantage alleged for the ether solution is the unfolding of the abscess wall by the ether vapor and consequent

contact of the solution with all parts. Dr. Woolsey considers this more than offset by its disadvantages. Some of these are ether intoxication, burning pain, gangrene of the abscess wall, vomiting, strangury, retention.

With the exception of French surgeons, ether solutions of iodoform have been abandoned in favor of sterilized, freshly prepared emulsions in glycerin, glycerin with water or alcohol, olive oil or mucilage, in strengths varying from five to twenty per cent. and in amounts of 5 c. c. to 100 c. c. of a ten per cent. strength. Of these menstrua, glycerin seems to be the one most generally useful and advisable, especially as many surgeons, and among them Billroth, attribute some of the good effect to the glycerin. Next to glycerin Dr. Woolsey places olive oil which may be used in some cases where glycerin can not be, and *vice versa.*

It is of the utmost importance to observe thorough antiseptic precautions, and the emulsions should be freshly prepared so as to contain no iodine, and sterilized. In the case of abscess the contents are generally first evacuated, and then most surgeons wash out the cavity with Thiersch's solution or something similar, and finally the cavity is moderately filled with the iodoform emulsion, up to 100 c. c. being used. This is repeated every one, two, or four weeks.

In the case of a joint, if there is no pus an injection is made into the cavity of the fungous joint and the fluid is distributed by passive motion and massage. In both cases it is well to introduce the trocar obliquely to obviate leakage after removal.

In the case of a fistula, parenchymatous injections into the walls of the fistulous tract by means of a hypodermic needle are far more effective than mere injection into its lumen. Most surgeons who have used this method report that they have seen no cases of iodoform poisoning, and class this treatment as simple, successful, and without danger.

The procedure must generally be more or less often repeated. Some, however, report cures after a single injection, and others in four or five weeks by two to three injec-

tions. The general rule, however, is that though the symptom of pain is quickly relieved, the healing process does not begin to show itself before five to six or even seven to eight weeks, after two to four injections, and then healing goes on rather rapidly, the complete cure requiring sometimes four to five months.

The first effect is a moderate amount of pain, not lasting over twenty-four hours generally. Then there is usually a refilling of the abscess or joint cavity, with more or less tension. The first sign of improvement is the relief of the pain, especially in joint cases. Then there is almost always a decided improvement is the general condition.

Itching of Central Origin, or Brain Itch.—Dr. L. Bremer (*Review of Insanity and Nervous Disease*) calls attention to the importance of itching as a symptom of disease of the central nervous system. He has seen more than one neurasthenic person who, when reading, experienced an intense itching in some part of the scalp, by preference on top of the head. Persons afflicted with this troublesome affection are always neurotic or psychopaths. Most of them can, by sheer will power, produce itching in the parts usually and principally attacked by concentrating their attention on those spots. It has been often observed that psychical pain occasioned, for instance, by the death of friends, relatives or parents, is attended by localized or general, more or less intense itching. Pruritus is a frequent complication in mental disease, that taxes the ingenuity and, unfortunately, often baffles the efforts to relieve.

The author has often witnessed pruritus accompanying psychoses, principally melancholia. He has also seen two cases in which this symptom preceded the outbreak of the mental trouble and disappeared as suddenly as it had come on with the first manifestation of the mental derangement. In neurasthenia and hysteria, pruritus, local and general, is not unfrequently a troublesome complication. He has also seen pruritus in cases of coarse brain lesions, particularly in one instance of embolism of the right

Sylvian artery. Many neurasthenics are immediately and sometimes permanently relieved by treatment with bromides (10 to 12 grains) and cannabis (¼ grain of the extract) three times a day, provided that other remedies and procedures usually employed in the treatment of neurasthenia are not neglected.

Of all the remedies recommended for this kind of pruritus, and in fact pruritus of any kind and origin, the warm bath with a handful of wash soda and half a pound of starch to an ordinary bathtubful of warm water seems to act best.

Book Notices.

HISTORY OF THE LIFE OF D. HAYES AGNEW, M. D., LL.D.—By J. Howe Adams, M. D. With fourteen full-page portraits and other illustrations. Royal Octavo, 376 pages. Philadelphia, The F. A. Davis Co., 1892.

This book is worthy of its subject. It tells in a clear, simple, straightforward fashion of the lineage and early surroundings that made the man, and the circumstances and labors of his life. It possesses the general interest of all good biography, must seem to Dr. Agnew's admirers a fitting memorial, and has especial interest for his professional contemporaries and successors.

In any biography of Dr. Agnew his experiences, labors, desires, and purposes as a physician and surgeon, must take the leading place ; and Dr. Adams has wisely made up for the paucity of autobiographical material left by one who gave so little thought to the wants of his possible biographer, by quotations from the more important of his public addresses.

Then too, there is woven in with the account of Dr. Agnew's professional life, a great deal of the medical history of Philadelphia that naturally belongs with it. It is a book to have and read carefully, containing much that it is worth while for every medical man to think about and remember. E. J.

SURGEON

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CHOLE-CYSTOTOMY, WITH THE REPORT OF A CASE.

BY JOHN B. DEAVER, M. D.,

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Chole-cystotomy while being a well recognized procedure is, at the same time, the subject of considerable diversity of opinion among surgeons; first, as to the best method of performing the operation; and second, as to the best means of disposing of calculus impacted in the common biliary duct. This difference of opinion concerning the operation consists as to the advisability of dividing the operation into two stages by first anchoring the fundus of the gall bladder by stitches to the edges of the wound made in exposing it, previous to its incison, or, of packing around the wound with antiseptic gauze the space between the gall bladder and the peritoneum.

The only advantage of first anchoring the gall bladder to the abdominal walls at the site of the incision made to expose it is the prevention of any possible contamination of the peritoneal cavity by its contents when it is incised. The disadvantages of this method, on the other hand, seem to be quite numerous. First, in cases where the gall bladder is very large it will be impossible to palpate the common duct to determine if it contains one or more calculi without,

at least, making an extensive wound in the abdominal walls, and, even while the duct may be reached with the finger, it cannot be definitely ascertained when the gall bladder is full that it is permanently impacted. Second, with the fundus of the gall bladder adherent to the abdominal walls an impacted common duct cannot be dealt with to every advantage, as the possibility of attaching the fundus of the gall bladder to the duodenum when the duct cannot be emptied except by incision is absolutely precluded. Third, with the gall bladder anchored, when emptied, the only means of determining the condition of the calibre of the common duct is by the introduction of a probe, which is very unsatisfactory when we recall that the duct turns abruptly to the right behind the head of the pancreas before it enters the duodenum.

There is no doubt that the peritoneal cavity can be protected against infection by packing sponges or antiseptic gauze around the presenting fundus of the gall bladder, which is thus left free to be managed as circumstances demand. Where the gall bladder is greatly distended and more or less resilient as elicited by palpation, I would advise aspiration preliminary to incising it, thus rendering its contents more manageable and, further, lessening the risk of exposing the peritoneum to infection. In long standing cases of biliary obstruction from impacted calculi pus may be generated, constituting what is known as empyema of the gall bladder.

Having opened and evacuated the gall bladder, the latter being done with a pair of lithotomy forceps, lithotomy scoop, or with the handle of a small table spoon, it should be washed out with a solution of either boracic acid, saturated, or carbolic acid 1–80, the sponges or gauze as the case may be, removed and the common duct examined for obstruction. This is accomplished by introducing the finger through the opening of communication (foramen of Winslow) between the greater and the lesser peritoneal cavities which is directly behind the free (outer) border of the gastro-hepatic or lesser omentum. A guide in locating the duct is

the pulsation of the hepatic artery which runs with the duct between the layers of the lesser omentum, but to the left of it. With the finger engaged in this opening the duct can be traced to its point of entrance into the duodenum, where its calibre is smallest.

If the common duct be found to contain an impacted calculus an attempt should first be made with the fingers to force the calculus into the gall bladder, which failing to accomplish, a similar effort aided by a probe passed into the duct should be made to force the calculus into the duodenum. Failing in these attempts to dislodge it, but one of two means is left the operator by which to dispose of it, namely, to crush it with a pair of padded forceps, grasping the duct upon either side of the calculus, or to open the duct and remove it.

Crushing the calculus within the common duct (cholelithotrity), if it can be done without having to use too much pressure, I consider preferable. If the calculus does not yield to moderate pressure the danger of injuring the walls of the duct and causing peritonitis or sloughing of the duct is too great to warrant one in assuming these risks by the use of very much force. While opening the duct and removing the calculus can be done, I do not think it very practicable on account of the duct being so inaccessible. The most difficult part of this procedure is the closing of the duct, to accomplish which with a degree of certainty calls for more room than is here available. In the hands of an accomplished surgeon, however, this may be done; and in justice to this manner of dealing with obstruction of the common duct from impacted calculus I should say, it has been done successfully.

Failing to crush the calculus and not regarding with favor the opening of the duct there is left a means of establishing a route for the bile to gain access to the small intestine, namely, by anastomosing the fundus of the gall bladder to the duodenum (chole-duodenostomy) or to the ilium (chole-enterostomy), the former of which is preferable. This may be done with segmented rubber rings, by the Abbé

method, or with Murphy's button. By either of these methods contraction and ultimate occlusion of the opening is liable to occur. This is less likely to follow the Abbé operation by which a large opening of communication can be made.

The common duct found to be clear, or to contain a calculus which we have succeeded in forcing into the gall bladder or the duodenum, or in crushing, the operation is completed by either closing the opening in the gall bladder and returning it to the abdomen, after which the abdominal wound is closed, or by suturing it to the abdominal wound. The fistulous opening exists for some time, in many cases, while in a few it is permanent.

In a certain proportion of cases operated upon there is recurrence of the obstruction when, if a fistula exists it can be safely dilated and the bladder emptied. I have had this to occur in two of the cases I have operated upon. To close a fistula which has refused to heal will call for either a plastic operation at the site of its orifice or opening of the abdomen and performing a chole-enterostomy.

In suturing the edge of the gall bladder wound to the edges of the abdominal wound all of the coats of the gall bladder with the parietal peritoneum, the superficial fascia and skin are transfixed. A rubber drainage tube is next introduced into the gall bladder and the wound dressed. For the first few days the dressings will have to be changed often as they soon become stained with bile.

Case. Mrs. R., aged 36, white. Before coming under my observation had attacks of severe pain radiating from the liver to the umbilicus. A short time before the last attack she became slightly jaundiced. Examination of the hepatic region demonstrated tenderness upon palpation particularly over the normal position of the gall bladder; further, by palpation and percussion an indistinctly outlined swelling corresponding in position to the distended gall bladder could be made out. The general appearance of the patient was somewhat cachectic. She had never noticed the presence of gall stones in her stools.

Diagnosis: Distension of the gall bladder with stones and pus.

Chole-cystotomy was done at one sitting and 847 stones varying in size from a millet seed to a medium sized marble were removed. The patient made an uninterrupted recovery. The wound healed entirely in two months.

THE DIAGNOSIS OF APOPLEXY.[1]

By Dr. Charles K. Mills.

PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE PHILADELPHIA POLYCLINIC; NEUROLOGIST TO THE PHILADELPHIA HOSPITAL.

Reported by

Dr. Theodore A. Erck,

RESIDENT PHYSICIAN IN THE POLYCLINIC HOSPITAL.

This man has been brought to the Polyclinic Hospital by the police patrol, who half an hour before found him lying unconscious in the street.

When an insensible patient has the history of a sudden fall, a question that at once arises is; whether the fall has been accidental and has caused his condition; or whether he has had a cerebral attack, either apoplectic or of some other sort, which has caused the fall, and is the real thing to be considered.

This man has no external evidences of fracture; but sometimes without fracture, or with concealed fracture, a sudden fall or a blow on the head will produce an extra-dural or a sub-dural hemorrhage. Such patients are usually unconscious at first, and often regain or partially regain their senses, and again lapse into unconsciousness. One dilated pupil, convulsions and some hemi-paresis, are among the prominent symptoms of such a lesion. The signs and symptoms present do not point clearly to this lesion.

Other diagnoses to be considered are those of drunkenness, opium poisoning, epilepsy, uremia, and embolism or cere-

[1] Clinical remarks on a case brought in and examined during Professor Mills' clinic.

bral hemorrhage, perhaps still others; but these are the most important.

Profound alcoholic intoxication can be excluded, as this patient is evidently absolutely unconscious, and suffering from profound paralysis, more marked on one side than on the other. In dead drunkenness, while consciousness may appear to be lost, the condition is rather one of extreme stupor or stupidity, and the patient by strong excitants can usually be made to respond in some way, although he may immediately sink again into his stuporous state. The smell of liquor on the breath may help, but this cannot be relied on, as a patient insensible from any cause may have been drinking. Both sides of the body are equally affected in extreme alcoholic intoxication.

Several facts will easily exclude opium poisoning, such as, the sudden onset, the absence of pin point pupils which will not dilate, and the peculiarities of the state of insensibility. As the man was seen at the time of and immediately after his attack, and for other reasons, the post-paroxysmal sopor of epilepsy can be dismissed.

Uremia is a not unlikely diagnosis in this case. Uremic coma is often accompanied by evident physical conditions, as dropsy, convulsions, sub-normal temperature, dry skin, urinous odor, although these are not necessarily present. The resident physician will catheterize the patient and examine his urine at once. (This was done and the urine found to contain both albumen and casts in abundance). The results of this examination complicate the diagnosis of the case, and particularly as we sometimes have a uremic hemiplegia. He may have both uremia and a cerebral hemorrhage, and it will do no harm to cautiously treat him for the former, by giving him small doses of muriate of pilocarpin, carefully steaming and purging him; and at the same time supporting him by sulphate of strychnin hypodermically.

On the whole, I incline strongly to the diagnosis of hemorrhagic apoplexy, and this in spite of the existence of cardiac murmurs and the albumen and casts. Embolism is

possible but often in old cases of valvular heart disease rupture of a vessel occurs; vessels and heart being alike degenerated.

The patient fell suddenly in the street, and, as far as we have been able to learn he was unconscious from the first. We look for, but find no evidence of any injury from his fall. His face, as is sometimes the case in apoplexy, is blanched.

The respiration is apoplectic in character, stertorous, noisy, with puffing out of the cheeks, with a tendency to Cheyne-Stokes respiration; not the typical gradual increase in rapidity and volume until it reaches a climax, then the gradual subsidence and final stoppage for some seconds until it begins again; but you see he stops breathing for a while and then begins again. This difficult respiration of apoplectics can be much improved by turning the patient upon his side as you can observe. (This was done cautiously with some improvement.)

The right side of his face droops more than the left and the right cheek flaps more than the other. His right pupil is widely dilated while the left is apparently contracted; neither pupil responds to light; when first admitted his pupils were even. The ophthalmoscope reveals only a moderate distension of the retinal veins. Conjugate deviation, by which we mean the rotation of the head and eyes to one side, is not demonstrable in this case.

The pulse is full and slow, the temperature subnormal. The patient when first admitted had several convulsive movements, but you see now as I lift an arm or a leg on either side it drops equally lifeless. The patrolmen stated that he was paralyzed on the left side when they picked him up; this is very probable but the blood which has been poured out since that time has caused such profound unconsiousness that it is now impossible to detect any difference in the two sides; both seem to be equally paralyzed. Sensation is almost completely abolished as pricking him demonstrates.

This man was an out-patient of the Department for

Diseases of the Chest. Several months ago after a sudden immersion of his feet in cold water he had an attack of partial paralysis and aphasia without unconsciousness from which he recovered in a short time. He had a distinct diastolic murmur and was treated for aortic regurgitation. His urine has been examined repeatedly but until this time was found to be free from albumen and casts.

The patient never regained consciousness, but died the same evening.

Post-mortem examination. The lungs, liver and spleen were normal; the heart was hypertrophied on the left side; with calcareous deposits at the bases of the aortic valves and in the aorta; the kidneys were small with capsules adherent, and granular surfaces. In the right cerebral hemisphere was found an immense clot which had largely destroyed both internal and external capsules, the lenticular body, and the white matter of the parietal lobe. It had not broken into the ventricles. The hemorrhage had probably taken place from the lenticulo-striate artery.

LAPAROTOMY DURING PREGNANCY.[1]

By J. M. Baldy, M. D.,

PROFESSOR OF GYNECOLOGY IN THE PHILADELPHIA POLYCLINIC; SURGEON TO THE GYNECEAN HOSPITAL.

On a number of occasions it has been my lot to be called upon to operate on patients who have been pregnant from two to five months. In all of these cases the symptoms have been obscure and the diagnosis extremely doubtful. In fact, it has been only possible to say that pregnancy existed, and that it was seriously complicated, but the exact character of the complicating disorder has been uncertain. In each case the condition of the patient was very serious and demanded prompt attention, with a single exception. In this one case the history, as given by both the patient and her mother, as well as by the attending physician, was

[1] Read before the Philadelphia County Medical Society.

such as to deceive, and, together with her supposed symptoms was the cause of a mistaken diagnosis. In every case the patient recovered from the operation; some of the patients aborted, while in the case of others the gestation continued. Excepting that abortion occurred there was nothing unusual in the convalescence of any of the women.

Abortion following a laparotomy and an operative procedure upon the uterus or uterine appendages would naturally be expected, and has, as a matter of fact, often occurred; while, on the other hand, it has also happened that the abortion has failed to take place in quite a respectable number of reported cases. Why this should happen in a given case and not in another may seem to be a matter of chance; but to my mind, in the majority of cases, the surgeon holds in his hands the secret of prevention, if he finds it judicious to use it. My experience is not as yet sufficiently extended to speak finally on this subject, and yet, as far as it has gone, the treatment which has been adopted has proven eminently successful. I have not found time to look up the literature of this subject with sufficient care to say whether, in the cases in which abortion has not taken place, opium has been administered, but it will be no matter of surprise to find such to have been the case. In my own practice in every case where opium has not been administered after the operation, with a possible exception, abortion has taken place. In every case where I have used the drug the gestation has continued, in spite of the fact that the traumatism in these latter cases has been much more extensive.

As has been said, my experience has been too small in this class of patients for me to attempt to formulate any rule on the subject, and yet in the seven cases which have been seen by me the results have been so emphatic that it is certainly an encouragement to continue in the same course and give the treatment further trial. For instance, where one patient aborts after a simple exploratory operation where no opium has been used, and a second patient fails to abort under the use of opium, when both appendages have been removed,

the uterine wall curetted, and stitches placed in the uterus itself, one can hardly fail to suspect the cause and effect.

The amount of irritation incident to handling the uterus during an operation, the irritation of ligatures in close proximity to this organ, if not on the organ itself, and the shock of the surgical procedure, are certainly calculated to bring about uterine contractions. From what is known about the effect of opium it is certain that it will combat each of these causes, and will allay the uterine irritability and its tendency to contract, until their effect has passed away. The effect of the handling and the shock will not be long continued—possibly not longer than from twelve to twenty-four hours—while the effect of the ligature will remain much longer; in fact, an indefinite length of time. In the first four patients of this class upon whom I operated abortion occurred in three. The cases were as follows: An exploratory laparotomy in which no disease was found. I am confident that both the attending physician and myself were tricked into the operation, with the express hope of its bringing on a miscarriage. The desired event took place on the second day after the operation. Another case was that of a woman who had aborted some six or seven times successively. An examination at about the second month of gestation, a few weeks before her usual time for aborting, revealed a prolapsed and firmly adherent ovary. This was removed several days later, and the miscarriage took place on the second day after the operation. A third case was that of a woman suffering from a small ovarian cyst. The third day after the operation the three-months' fœtus had come away. A fourth patient was suffering from a unilateral hydrosalpinx, which had been mistaken for an ovarian cyst. Gestation continued in this patient, and after a few months she disappeared from observation.

In none of these four patients was opium in any form administered. In the other three cases I gave the drug in the form of morphine, with the express purpose of preventing the miscarriage, and in each case it accomplished the

result. In all three of these patients I failed to arrive at an exact diagnosis—two of them were strongly suspicious of extra-uterine pregnancy. The diagnosis lay between extra-uterine, combined with intra-uterine pregnancy, or intra-uterine pregnancy complicated by pus in the appendages. In both cases it proved to be pus. The first case was an ordinary one of adherent tubes and ovaries, with patulous tubes. The second case had a unilateral pyosalpinx containing several drachms of pus. The third and last case was a unique one, and, as I know of none other in the literature of gynecology, I shall report it more fully:

The woman was sent me by Dr. Swing, of Coatesville, who was present at the operation, as were also a dozen other medical gentlemen, any one of whom can vouch for the following facts: The patient was between thirty and thirty-five years of age; before marriage she had been in the Norristown Asylum for menstrual insanity. She had been married last January for a second time, and shortly after marriage—possibly two or three months—had contracted gonorrhœa from her husband. Both she and her doctor were fully cognizant of the fact that she was suffering from the disease. For some weeks she did not suffer greatly from this disorder, but finally began to have a number of very troublesome symptoms. When she consulted me she was in a very bad way, and came with the diagnosis of pelvic abscess. It was not hard to decide that there was pregnancy present, but whether it was intra- or extra-uterine it was impossible to say. At the operation the following condition was found: On the left side, near the entrance of the Fallopian tube into the uterus, there was an adhesion of omentum to both the uterus and the abdominal wall firmly cementing the two together. The omentum was first torn away from the abdominal wall and then from the uterus, which was observed to be five months advanced in gestation. As the omentum was freed from the womb, about an ounce of pus gushed out from immediately under the point at which the omentum had been adherent. The abscess cavity proved to be in the uterine wall fully an inch from the Fallopian

tube and with no connection to that organ. Both tubes and ovaries were observed to be distended and universally adherent. The adhesions to both were broken and the appendages brought out of the incison. The tubes each contained fully an ounce of thick, creamy pus, as the after-examination proved. An attempt was made to deliver the uterus, my idea being to make a Porro operation in view of the fact that there was an abscess cavity in the uterine wall, and it would be difficult to deal with it as safely in any other way. After a somewhat prolonged effort it was found impossible to bring the uterus out of the pelvis and deliver it. Whether it was an adherent or a sacculated uterus I am as yet uncertain. If it were simply adherent the adhesions were so far down under the organ that I could neither see nor feel them. As I failed to deliver the organ I at once proceeded to remove the appendages. After this was accomplished, the cavity of the abscess in the uterine wall, the size of a silver half-dollar, was carefully washed out and curetted, after which it was packed with gauze saturated with bichloride 1:500, for a period of five or ten minutes; then the gauze was removed and the edges of the cavity brought together by silk sutures buried completely around the cavity. A careful toilet of the peritoneum was made and the abdominal wound closed without drainage. The patient reacted well from the anesthetic, and, with the exception of the fact that she was insane for a week after the operation, she had an easy convalescence. She left the hospital some two or three weeks since in very good condition, considering all the circumstances.

The question arises in this case, how could the woman become pregnant with both tubes distended with pus? It is much more probable that the tubes had been infected prior to the pregnancy, that the ovum passed into the uterus in spite of, and through, this infection; that the irritation of the subsequent pregnancy determined the suppuration in the tubes and the consequent double pyosalpinx. One can only speculate as to the method of formation of the uterine abscess.

This patient had morphine from the first, with the view of preventing a miscarriage, and she did not miscarry. Before she was out of ether she received a hypodermatic injection of a quarter of a grain of morphine, which was followed a few hours later, when uterine pains came on, by a second quarter of a grain. Subsequently she was given each four hours an eighth of a grain of morphine for forty-eight hours. For the following week, whenever the uterine pains became troublesome or emphatic, she received an injection of a quarter of a grain of the same drug.

In looking back over the case I find a perfectly just criticism which may be offered in the management, namely, the treatment of the uterine abscess. Had I another such case to deal with, after preparing the abscess cavity as was done in this case, I should pack its cavity with gauze and bring the end of the gauze out of the abdominal incision, thus providing for drainage in case of suppuration. As it was, dependence was placed on the thoroughness of the curettement and the disinfection of the cavity. Had these failed me the patient would have been lost; with the guaze packing and drain she would still have had a chance. Fortunately, as events proved, the work was well done and the result all that could be desired.

KERATOSIS OBTURANS WITH ITS RELATION TO CHOLESTEATOMA.

By Jeannie S. Adams, B. S., M. D.,

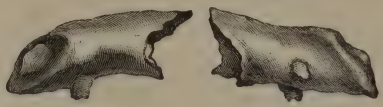
Mrs. C. came Aug. 2, 1892, to the Polyclinic Otological Department under charge of Professor Randall at whose suggestion the following is written. She complained of pain shooting from the left ear down the neck and up in the head to the middle line. She could not sleep at night and had been treated for neuralgia for six weeks.

Examination of the right ear revealed the drum membrane and walls of the external meatus encrusted with an epithelial film. A complete cast of the auditory canal was

subsequently removed, a drawing of which is inserted.

The cast was translucent, composed of horny epidermis and thickest at a point corresponding to the inner third of the floor, presenting here root-like protrusions which dipped into rough depressions in the canal wall. This thickest part was whiter, more pearly and composed of typical cholesteatomatous material.

After removal of the cast, a small blood clot formed at this point and, being removed a few days later, the bone beneath was felt to be rough as if carious. The ear was carefully watched, but no marked epithelial desquamation followed. The cast has not reformed, though there has been a gradual increase in the size of the material reforming at the inferior, roughened point mentioned.



POSTERIOR. ANTERIOR.

The left ear revealed a whitish epidermal mass completely blocking the meatus. As it was removed, small polyps were uncovered in the outer third of the canal. These disappeared when freed from pressure and dusted lightly with boric acid for a few days. After the first two treatments, the patient was enabled to sleep and the pain decreased.

Complete removal of the cholesteatoma showed:

1. Atrophy of the canal posteriorly and superiorly:

2. A polyp-mass situated upon the drum-head near the short process of the malleus:

3. A large friable polyp-mass upon the inferior wall near the membrana tympani:

4. A multiple, sessile polyp-mass upon the upper, posterior wall of the meatus, half way between the drum membrane and entrance to the canal. In the center of this last mass was a sinus into which the probe passed easily and from which masses of cholesteatomatous nature were extracted from time to time.

The polyp-mass in the floor of the canal was friable and

broke in pieces on the use of the probe, revealing a roughened area of bone beneath. Upon removal of the polypi and repeated curettings of the roughened areas with a cotton wrapped probe, all unpleasant symptoms ceased. Hearing, after removal of the cast and cholesteatomatous-mass, constantly improved.

A. D. R +, A 1½ feet, Whisper, Low voice.

A. S. R +, A 3 feet, Whisper, Low voice.

A careful study of this case shows that the epithelial material which covered the meatus walls on the right, and might seem to have arisen by exfoliation at the points covered by it, more probably came from the single point in the meatus floor. Though full proof cannot be given, it is very probable, that here one or more of the mucous membrane-lined cells adjacent to the canal had been opened by the caries, and epidermis from the canal engrafted upon its surface, as, in the left ear, the lining of them eatus was lost and the bony wall invaded. Such is the origin of cholesteatoma in many cases, as shown by Bezold and others, and such was certainly the case in the left ear of the patient.

Here, as in almost every case of "Keratosis obturans," there was loss of one or more portions of the cutaneous lining of the auditory meatus, and from these points principally, and probably from them solely, arose the cholesteatomatous material which lined the whole of one canal and blocked the other by its denser masses.

Meetings of Medical Societies in Philadelphia for May and June, open to physicians on invitation of members:

County Medical Society, May 24th, June 14th and 28th.

College of Physicians, June 7th.

Obstetrical Society, June 1st.

These Meetings are all held at 8 P. M. in the Hall of the College of Physicians 13th and Locust Streets.

Hip-joint Amputation.—Dr. John B. Deaver presented a case of this operation done for osteomyelitis of the femur. During the amputation, hemorrhage was controlled simply by an Esmarch tube applied round the thigh, above the trochanter and along the crease of the groin, retained here by two pieces of bandage, one passed beneath the tube in front and the other behind, each held by an assistant.

An oval flap of skin and fascia was made, and the muscles divided down to the bone by a circular sweep of the knife. The superficial and deep femoral arteries, with their accompanying veins, were next tied separately, as well as those of the muscular branches which could be recognized. The tube was next loosened a little, and the small vessels, as they bled, caught with hæmostats. The tube was now removed, and an incision carried from the external angle of the wound up over the trochanter and into the joint dividing the capsular ligament, when the muscles were carefully separated from the bones and disarticulation completed. The amount of blood lost, amounted to not more than two ounces. The advantage this procedure offers over the Wyeth method is in not dividing the femur before the disarticulation is made, and further, that the amount of blood lost is not any greater, and that the vessels not being constricted for so long a time, there is less likelihood of consecutive bleeding.

Tumor of the Neck.—Dr. Deaver presented a sarcoma removed from the side of the neck, which had its origin from the periosteum of a vertebra, causing symptoms of laryngeal obstruction, paroxysmal in character and attended by the expectoration of large quantities of mucus. The symptoms were not due to the pressure inflicted upon the larynx or trachea, but from involvement of the laryngeal nerves, and they continued until death, twenty-four hours after operation.

Dr. John B. Roberts had twice removed large malignant growths from the neck, and in both cases the result was the

same as in Dr. Deaver's case. In one case, the patient died on the second day with symptoms of brain implication. The other case was that of a man with a deep tumor requiring ligation of a large vein. At first he did well, but on the fourth or fifth day he was found to be breathing very rapidly, and sank in a few hours in a sort of collapse.

Cartilaginous Cyst Near Subclavian Vessels. — Dr. Deaver presented a specimen of cyst, in the wall of which was a circular piece of cartilage. It was removed from the subclavian region of a man who was injured at the battle of Appomattox, 1865. At that time, the clavicle was fractured, and a sinus had existed in the neck ever since. Examination of the clavicle through the wound showed no trouble, other than a slight enlargement at the seat of the original fracture. Examination with the fingers demonstrated the presence of a partly movable mass, which was thought to be a detached piece of the clavicle which had undergone necrosis. Operation revealed the presence of this cyst; it was attached to the sheath of the subclavian vessels and to the pleura.

Operations on the Fifth Nerve.—Dr. Deaver reported a case in which, for recurring neuralgia, he had, after two operations by another surgeon, trephined the inferior maxilla over the angle and removed a section of the inferior dental nerve. This was followed by relief for a period of fifteen months, when the pain again returned. He then opened up the field of the old operation, exposed the proximal end (stump) of the nerve, excised a part therefrom, chiseled away from the roof of the remaining portion of the dental canal, and removed the distal portion of the nerve as far as the mental foramen. This was followed by relief for sixteen months, when the pain returned. Clearing out of the field of the old operation was not followed by any marked relief. He then took out a vertical section of the ramus of the jaw as far as the sigmoid cavity, and removed a further section from the proximal end of the inferior dental,

and, at the same time, a section from the gustatory nerve. This was followed by relief.

He was not convinced that more radical procedures are warrantable until the milder ones have been done without success. In a number of cases of neuralgia of the inferior and superior maxillary nerves he had followed this course in relapsing attacks, with satisfactory results. He is convinced that a longer period of relief from pain is thus offered the patient than by the more radical operations, removal of the Gasserian ganglion, etc.

Dr. J. Ewing Mears thought it important to ascertain what the pathological condition is in these cases of tri-facial neuralgia. Operative procedures appear, in most cases, to be hopeless so far as permanent relief is concerned. Repeated operations give temporary relief.

Dr. W. W. Keen agreed that the question of pathology is a most important one. He had found sclerosis, and, in one case, spots of distinct hemorrhage into the nerve. As the trouble only appears in later life, the operation of choice should always be the peripheral operation. He should not think of endeavoring to remove or break up the Gasserian ganglion as a primary operation. Any operation involving so much traumatism is to be considered very serious, and should not be undertaken except after the gravest consideration.

Dr. James M. Barton could confirm what had been said by Dr. Keen. The most trifling operation on the nerve, the slightest stretching, even the division of the distal branches is apt to afford temporary relief, and the most serious operation will not do much more.

Dr. Thomas G. Morton was then attending a patient, eighty-two years of age, on whom he operated some twenty years ago. He had entire relief for years, but for the last ten or fifteen years, although enjoying robust health, has, at times, suffered intensely. In another case—now more than twenty years since the operation—the patient has had entire freedom from pain. As a rule, sooner or later the pain appears, but, in such cases, there is no reason why the operation should not be repeated.

Fracture of the Thyroid Cartilage.—Dr. William J. Taylor reported a case caused by a fall. The patient had great difficulty in breathing, could not swallow, the saliva ran out of the corners of his mouth, and when he attempted to speak his voice was husky and his articulation very indistinct; he could not speak above a whisper, and only that with the greatest pain and difficulty. There was little or no swelling of the neck, but he complained of great pain and discomfort in the throat.

Careful examination revealed a fracture of the thyroid cartilage on the right side. The amount of displacement was very slight, but the mobility of the fragments could be easily demonstrated, and the fragments displaced and replaced again by manipulation with the fingers.

Dyspnœa was pronounced, but there was, apparently, no emphysema about the seat of the fracture or in the neck. His symptoms were severe, and the pain and discomfort very great, but he did not think them sufficiently so to demand immediate relief.

No attempt was made to apply a dressing. For some days the bleeding from the mouth persisted, and the difficulty in swallowing and dyspnœa continued, but gradually lessened, and by the end of three weeks was entirely gone. His voice still remained somewhat husky, but there was no longer pain or difficuly in swallowing.

The President, Dr. Wm. Hunt, stated that the conclusion of a paper which he wrote on fracture of the thyroid cartilage was that where emphysema and bloody sputa were present, there had been, up to that time, no recovery where tracheotomy had not been performed. He thought that tracheotomy should be done when the first symptoms were discovered. He found several cases similar to that reported by Dr. Taylor, in which recovery followed without tracheotomy.

Multiple Fractures.—Dr. William J. Taylor reported the case of a woman who, going down the cellar stairway in the dark, missed her footing and fell to the bottom, some

eight or ten steps. From the nature of the injuries, she must have put out her hands before her in the hope of breaking the fall. There was a fracture of the surgical neck of the left humerus, and an oblique fracture of the middle one-third of its shaft; a contusion of the left elbow and a fracture of the lower end of both the radius and ulna of the same side. There was a supra-condyloid fracture of the right humerus extending into the elbow-joint, forming a T. A fracture of the upper third of the radius and of the ulna, and a fracture of the lower end of the radius. Still, she was able to walk into the hospital, and seemed to suffer comparatively little pain. Her temperature was normal, her pulse good, and there was no evidence of shock such as would have been expected from the nature of her injuries. She was a large, strong, and, apparently, perfectly healthy woman. She had never before had a fracture of a single bone, neither was there any history of fracture in any member of the family.

There was much difficulty experienced in adjusting and holding in place the different fractures, but with care and patience, and plenty of plaster of Paris, this was accomplished. Her recovery has been most satisfactory, and she has, for all practical purposes, the full use of both arms.

Dr. H. R. Wharton's experience had been, that after multiple fracture, generally, patients do well. But last summer, a boy six years old, who had fallen and sustained a compound fracture of the nose, fracture of both bones of each forearm, and fracture of both thighs about the middle of the shaft, did perfectly well with normal temperature for about a week, then it was noticed that his breathing was peculiar, and an hour afterward the patient was moribund. He died of some cerebral complication. It might have been a case of fat embolism, which is said to follow fractures.

Dr. Thomas G. Morton had seen a lady, eighty-four years of age, who sustained, in a fall, a fracture of both bones of the forearm, the humerus about the middle, and the shaft of the femur near the great trochanter. Complete recovery of these injuries followed.

Metatarsalgia, Morton's Toe.—Dr. Thomas S. K. Morton read a paper on this affection and reported six cases cured by operation. It is best known as "Morton's Painful Affection of the Foot," or "Morton's Toe," and was first described by Thomas G. Morton in 1876. It may be described as a painful affection of the plantar digital nerves, directly caused by pressure upon or pinching of them by certain portions of the metatarso-phalangeal articulations, especially the fourth.

While the exact etiology of the affection is of great scientific interest, clinically it is of small account, as excision of the fourth metatarso-phalangeal articulation, as originally proposed by Morton, or amputation of the fourth toe, including the corresponding metatarsal head, invariably has secured an absolute and permanent cure. No dissections of the diseased regions have yet been possible, nor have the nerves been in any case excised, so that microscopical examination could be made. He has carefully examined a number of the joints that have been removed for the cure of the affection, and in no instance has been able to prove any anomaly or disease.

Metatarsalgia is, in its lesser degrees, a very common disease. Almost every one has suffered more or less, at times, from neuralgic twinges radiating from the joint in question. These mild cases occasionally develop into the more severe forms. In them occasional attacks of pain are often followed by periods of complete immunity.

The disease has not been observed before adolescence. Women are certainly more predisposed than are men. One foot is most usually involved, but very frequently one foot is affected to an almost unbearable degree, while its fellow is but slightly involved. Neither right nor left foot appears to be more liable to involvement. When both feet become simultaneously affected, the cause will often be found in ill-fitting or tight shoes. Middle life is the period at which the disease is most apt to develop or become severe.

The influence of heredity is very marked. He knows of several families in which a number of persons, mainly con-

fined to the female sex, are similarly affected. It is interesting to note that in these instances some cases have arisen from twists or sprains of the foot, and others apparently idiopathically. The exciting or immediate cause of metatarsalgia is usually excessive or unusual exercise of the feet while confined in new, tight, or ill-fitting shoes.

So far as relates to symptomatology, he regards the *imperative necessity of removing the shoe*, regardless of surroundings, when a paroxysm comes on, as a pathognomonic symptom of the disease. It may be said that no evidence of the disease can usually be felt or seen by the surgeon, except that the parts are often of a bluish tint and cold, from venous stasis, and have a tendency to profuse perspiration.

Treatment:—The less severe forms of metatarsalgia may often be prevented from running into the more serious types by proper shoe construction, or by wearing a narrow flannel bandage about the ball of the foot. The bandage should be two inches wide, and long enough to wrap neatly and firmly about the metatarsus some five or six times. The end is pinned, and the stocking drawn over.

The shoes for persons suffering from this disease should be firm-soled, make no lateral pressure upon the metatarsus, yet have the instep tight enough to prevent the foot slipping forward. The great object should be to prevent pressure upon the metatarsal arch, and also to prevent any rolling motion of the outer metatarsal heads upon their fellows. A broad, rigid sole would appear to best fulfil this last indication. As the foot spreads when the weight of the body is thrown upon it, the individual should be standing when the measurements for shoes are made.

In persons in whom a rheumatic or gouty diathesis may be suspected, appropriate remedies for those disorders should be given a thorough trial before operative measures are resorted to. Prolonged rest in bed will benefit all cases more or less, and occasionally secures relief for long periods, or even permanently cures the milder phases of the disorder.

Operative treatment should be limited to excision of the metatarso-phalangeal articulation from which the neuralgia

radiates, or, perhaps, to amputation of the corresponding toe above the joint.

These procedures are among the safest and simplest in surgery. Of amputation of the toe, together with its metatarsal head, nothing more need be said than that by this measure the possibility of subsequent trouble arising from a tendency of the toe to retract and ride above or below its fellows is excluded. However, this heretofore occasionally troublesome sequel can be avoided by dividing the extensor and flexor tendons while excising the joint, as he had done in five cases, with most satisfactory results.

Dr. W. W. Keen had seen only one case of this affection. He operated five years ago on both feet. Since then the patient has been able to walk perfectly well and to dance. Four years ago, he himself had an attack with every symptom that Dr. Morton has described. He was unable to walk without limping from the excessive pain, and when the pain came on, was compelled to go to his room or sit down where he happened to be, and remove the shoe. A pair of shoes made with a thicker and wider sole and a little larger did not give relief. But Dr. J. C. Wilson had suggested a gouty origin, and, on appropriate treatment, the pain disappeared. He mentioned this in connection with the diagnosis, as here there was the pathognomonic sign of having to sit down and remove the shoe when the pain came on.

Dr. Thomas G. Morton, as early as 1870, had attention directed to this painful affection of the foot, and then felt satisfied that it was a malady which had not previously been described. A medical man had once called upon him, seeking relief from a neuralgia of the foot, which was so terrible that he was willing even to submit to amputation of the limb. The only relief he obtained was by injections of morphia. The excision was completely successful, and the doctor went to his home on the third day afterward, and has never had any pain since. He had generally found the disease in one foot, but occasionally in both, and had operated on both feet at the same sitting.

To Prevent Hemmorrhage into the Mouth while Operating about the Face.—Dr. W. W. Keen placed the patient on a flat table with the side for operation turned a little down and cut through the skin down to the mucous membrane, but not through the latter. He then secured all the vessels before opening into the mouth. In this way he prevented blood from entering into the mouth, and also lessened the total loss of blood.

Severe Abdominal Disease with Slight Symptoms.—Dr. William Hunt presented the specimens and history of a young girl who, with every sign of good health, had been sent to the Pennsylvania Hospital by a physician outside, who had diagnosed possible stone in the bladder from the general symptoms. He examined her for stone, but did not find one, and decided to repeat the examination under ether the following day. At three o'clock she was taken with severe pain in the lower part of the abdomen. At eight o'clock she seemed to be doing well, but at eleven o'clock there was a return of the symptoms, and she died in two or three hours. It was found at the autopsy that the appendix was large and swollen and had a large perforation in it. The abdomen was full of pus. It was afterward learned that she had been ailing for two weeks, but there were no symptoms referable to the appendix.

Dr. Thomas G. Morton had seen more than one case where it was impossible to make a diagnosis; the most remarkable instance was one seen with Dr. DaCosta. The patient, about forty-two years of age, had been, apparently, in excellent health three days before; became obstinately constipated, and had nausea and vomited; little or no abdominal pain, and no swelling; a normal temperature, no chills, and pulse showed no acceleration. The bowel simply refused to respond to cathartics. There had been no former attack of pain in the appendix region.

The following day there was a subnormal temperature and great prostration, but no evidence of local or general peritonitis, and the diagnosis could not be cleared up. Median

exploratory abdominal section showed a foul abscess in the right iliac fossa; an inflamed gangrenous appendix; the ileum was covered with lymph, and for several inches showed structural change. Two days subsequently the patient died.

Dr. W. Joseph Hearn had a case where the man had walked to the hospital the evening before, with a temperature of 101°. Operation was done and a quart of pus evacuated. The man died subsequently.

Dr. T. S. K. Morton mentioned a case of strangulated hernia that walked to the Polyclinic Hospital—quite a long distance—after his physician had made strong taxis for half an hour. The strangulation had existed five days, and when he operated, the gut was found gangrenous.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Cases of Ovariotomy.—Dr. Mordecai Price reported eight complicated operations. One was an old case of extra uterine pregnancy in which a large mass on the left side extended as high as the umbilicus, and was excessively tender. She had missed two periods, and then had symptoms of miscarriage, and continued to bleed up to the time of the operation. It was found that to remove the sac and tear the tremendous adhesions then existing would more than likely kill the patient, and decided to remove only the contents—the placenta and blood-clot—wash out and drain. The patient made a slow but perfect recovery.

In a second, the appendages were removed for nodular fibroid disease of the uterus. Great improvement followed. Removal of gonorrhœal pus of five years' standing, was followed by a most rapid recovery. One was a case of multinocular ovarian tumor of twelve pounds weight. Three were cases of removal of the tubes for hydro- and pyosalpinx. All these recovered.

One was of a woman married ten years and never pregnant. Six weeks before operation, forcible dilatation of the cervix, for treatment of sterility, gave her great pain, and

was followed by a severe attack of inflammation of the left tube, the abscess breaking into the bowel. This fistulous opening closed, and the abscess again filled and discharged through the bowel and vagina. The fistula closed for the second time. She was becoming emaciated and septic. The operator could not remove all the diseased structure on account of the dense adhesions to the bowel and vagina at the old fistulous point. But, with thorough irrigation and glass drainage, the patient made a good recovery.

In one case, he did supra-pubic hysterectomy, with removal of a large ovarian growth on the right side, filled with a black gelatinous fluid of the consistency of tar, and an intra-peritoneal cyst in the region of the left kidney. This patient was also suffering from a large ventral hernia, the result of the previous exploratory incision, which had shown everything in such a matted and adherent condition, and the nodular fibroid of the uterus so closely resembling malignancy that the danger was thought too great to remove it. The fibroid continuing to grow, and the patient to bleed two-thirds of the time; her condition became so hopeless that she demanded radical operative measures to remove the diseased conditions at any cost or danger of life. For six hours after the operation no pulse could be detected at the wrist. But she made an uninterrupted recovery.

Dr. H. A. Slocum had made a post-mortem in a case where no cystic enlargement of the kidney had been suspected. The left kidney presented a sac not communicating with the pelvis of the kidney. This sac was globular, fully four inches in diameter, and presented the appearance before removal of being intra-peritoneal, and full of urine. On the surface of the kidney were two small cysts, showing the mode of origin of the large one. Possibly the cyst described by Dr. Price might be of a similar character.

Current Literature.

The Treatment of Malignant Tumors by Inoculations of Erysipelas.—Dr. William B. Coley (*American Journal of the Medical Sciences*) while collecting the cases of sarcoma treated at the New York Hospital during the past fifteen years, found a case that seemed convincing evidence that erysipelas possessed a powerful curative principle antagonistic to sarcoma.

Five operations had been performed within a space of three years. At the last operation it was found impossible to remove all of the tumor, and the case was considered hopeless. Two weeks after the operation a severe attack of erysipelas occurred, followed by a second attack shortly after the first had subsided. During the progress of the erysipelas the remains of the sarcoma entirely disappeared, the wound rapidly healed, and the patient remained well seven years afterward. The diagnosis in this case had been repeatedly confirmed by well known pathologists, and there was no possibility of attributing the cure to any other cause than the erysipelas.

If erysipelas, a disease produced by a specific organism, could cure a case of undoubted sarcoma when occurring accidentally, it seemed fair to presume that the same benign action would be exerted in a similar case if erysipelas could be artificially produced.

Dr. Coley applied treatment to 10 cases which he has reported in detail. In addition to his own cases he has collected and tabulated all the reported cases of carcinoma and sarcoma in which erysipelas either spontaneous or artificial, intervened. It is upon a careful study and analysis of these cases, as well as upon the more practical experience derived from his own cases, that his conclusions are based.

We find a total of 38 cases of malignant disease in which an erysipelas has occurred, either by accident or intent. Of these 38 cases the erysipelas occurred accidentally in 23 cases, and was the result of inoculation in 15 cases (includ-

ing Dr. Coley's own); 17 cases were carcinoma, 17 cases were sarcoma, 4 either sarcoma or carcinoma. The immediate and final results were as follows:

Carcinoma. Of the 17 cases 3 were permanently cured. In addition, 1 case of probable carcinoma was well five years after the attack of erysipelas. Of the remaining 13, 10 showed improvement, which although temporary, undoubtedly added to the life of the patient in most cases. One case died, as a result of the erysipelas, on the fourth day.

Sarcoma. In sarcoma the curative action of the erysipelas was even more marked. Of the 17 cases of sarcoma we find 7, or 41 per cent well and free from recurrence from one to seven years after the attack of erysipelas. In addition to these seven cases there is a probable sarcoma of the breast, that was cured.

Ten of the remaining eleven showed more or less marked improvement; in some cases the tumor entirely disappearing, and not recurring for several months. One case died as a probable result of the erysipelas which was in this instance accidental.

In nearly every instance the tumor was not a primary growth, amenable to operative treatment, but either a recurrence after operation had been tried and failed, or from its nature inoperable.

Conclusions. 1. The curative effect of erysipelas upon malignant tumors is an established fact.

2. The action upon sarcoma is more powerful than upon carcinoma, in about the ratio of 3 to 1.

3. The treatment of inoperable malignant tumors by repeated inoculations of erysipelas is both practicable and not attended with great risk.

4. The curative action is systemic, and probably due chiefly to the toxic products of the streptococcus, which products may be isolated and used without producing erysipelas.

5. This method should not be employed indiscriminately until further experiments have proved its limitations.

Prickly Heat.—Dr. S. Pollitzer (*Journal of Cutaneous and Genito-urinary Diseases*) gives the results of the microscopic examination of pieces of skin taken from eight cases of prickly heat. In the cutis he found apparently no changes except perhaps that the lumina of the coil glands appeared at times unusually wide and the blood vessels of the papillary layer gorged. The horny layer was swollen by imbibition, the rete malpighii slightly œdematous and contained cystically dilated sweat ducts.

The most striking change found in prickly heat is the cystic dilatation of the sweat ducts. It is this change which constitutes the chief clinical feature—the minute discrete vesicles. The cysts, it is evident, belong to the class of retention-cysts, and there must be an occlusion of the duct somewhere externally to the cyst. This occlusion occurs evidently in the upper part of the horny layer, for the cysts develop at various points below this layer and it is hardly likely, the cause being always the same, that the occlusion occurs now in one place now in another.

The author suggests that the cause of sudamina in acute fevers is a mechanical occlusion by accumulation of epidermis during the fever at a time when there is a cessation of the sweat function and generally but little regard paid to cleansing the skin.

A profuse perspiration alone, with patulent ducts, can not explain the occurrence of retention cysts in prickly heat; some interference with the outflow is essential. The cells of the horny layer were found to be swollen and their nuclei preserved, the resemblance to mucous membrane being especially marked near the orifices of the sweat ducts. This condition is evidently due to imbibition with water, with sweat.

An epidermis which is bathed in perspiration retained as it commonly is by wet underwear, can not properly cornify; and in imbibing water the cells swell, and swell of course in all directions, laterally as well as vertically. The line of cells, therefore, expanding, may easily be pushed over the orifices of the ducts occluding them at

a time when the secretion of sweat is momentarily in abeyance. The next flow of sweat through the ducts would be unable to escape and must naturally cause a dilatation of the duct at a point just below the obstruction. The secretion of sweat continuing the cystic dilatation must grow larger and larger, and there will result a funnel-shaped spiral canal.

There is one respect in which the horny layer varies in different regions of the body and in different individuals, which may serve to explain the predilection of prickly heat for certain regions and individuals, and that is in respect to its oiliness. Cells which are well impregnated with fat can not imbibe water and therefore will not swell up and occlude the sweat duct when soaked in perspiration. The negro in the tropics sweats profusely, yet does not acquire the rash; his skin is particularly well oiled. No region of the skin is so well supplied with fat as the face; despite the profuse sweating prickly heat does not occur there.

If the author's view of the etiology of prickly heat be correct, —that it develops on a skin soaked in perspiration and insufficiently supplied with fat,—we have at hand a means of preventing the occurrence of the rash in those who are subject to it. He has advised a number of patients who suffer every summer from prickly heat to anoint the usually affected regions with a fat after their morning bath. The fat recommended was lanolin, to which a little almond oil was added. This application is only a prophylactic measure, and is not to be continued if the rash develops.

After the rash has appeared the best treatment is a drying application especially powder and the avoidance of everything likely to produce sweating. With the growth of the epidermis, the cysts must of course be carried to the surface. But in the meantime, their fluid contents have been absorbed, the cellular elements have become packed more and more closely and the cells have gradually dessicated and broken down.

Electrolysis in Stricture.—In summing up the possibilities and advantages as well as the disadvantages of electrolysis, Dr. C. A. Bryce (*Times and Register*) is led to the following conclusions:

1st. In strictures consisting of simple hyperplastic deposits of all degrees, excepting those of dense cicatricial tissue, electrolysis carefully and scientifically used will effect a perfect and permanent cure. But in the treatment of even these selected cases, a very long period of time will be required, the operator must be a thorough master of the science of electricity and, withal a good physician, and the patient must have a great amount of faith and patience, and considerable money, to make the surgeon consume the necessary time to treat him to a successful termination.

2d. All of the objections above mentioned being met, it is the best method that can be found for strictures of the above class.

3d. In strictures of fibrous bands and dense cicatricial tissue it is certainly worthless, and division and divulsion offers a far speedier and more certain method of relief.

Book Notices.

AN INTRODUCTION TO THE STUDY OF DISEASES OF THE SKIN—By P. H. Pye-Smith, M. D., F. R. S., etc. Philadelphia, Lea Brothers &Co., 1883. Feb. O. pp. 392.

This little book is one of the most original contributions to Dermatology which has appeared for a long time. It represents the author's views on the subject of diseases of the skin; the outcome of his own observations and reflexions, rather than an attempt to condense the general subject of Dermatology into one small volume.

For this reason, while not so practically useful as some other works of the same size, notably the American one of Jackson, recently published, Dr. Pye-Smith's work is one which every student of Dermatology should study carefully.

In the introductory chapter the author presents a general view of diseases of the skin considered from several standpoints. He classifies the various affections, first as they group themselves according to the physiological processes involved (the so-called "Etiological" classification), then as the objects of cure (the "Therapeutical" classification); then as regards their subjective effects, then as regards anatomical conditions of certain layers, organs or regions, and finally as especially affecting different ages.

This manner of introducing the subject of Dermatology is unknown to most modern text books and will have a rather chilling effect on the "practical" mind. To the earnest student and much more to the young teacher of the subject, this philosophical introduction should be of the highest value and I should recommend to all such a very careful study of this part of the work.

The remainder is not unlike other small text books of Dermatology, but every part shows some original suggestions and in most respects the treatment of the various diseases indicates a knowledge of the latest therapeutic advances.

There are a number of wood cuts printed in black and red. Most of them are intended to show the distribution of the various diseases, which is a helpful plan.

ARTHUR VAN HARLINGEN.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION VOLUME V. Published by the Association, Philadelphia, 1893.

This very neat volume of nearly 300 pages contains important papers by more than thirty of the most eminent American workers in the department of Medical Science. Professor Lee in his address as President discusses "The Inflammation of Cartilage." He assigns but little importance to the presence of the tubercle bacillus as a factor in causation.

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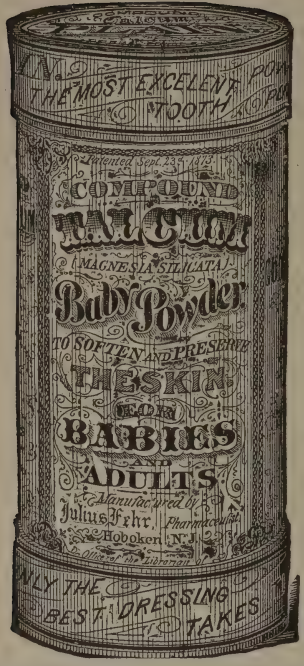

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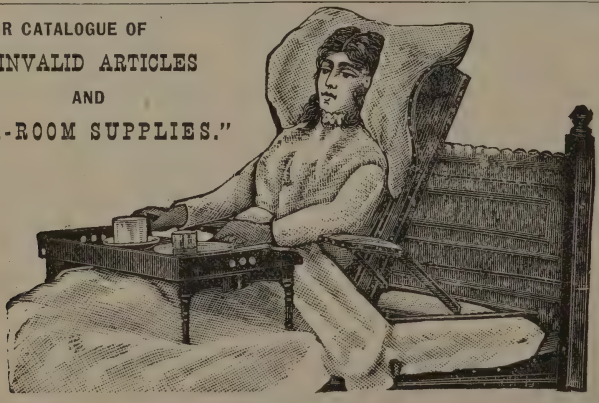

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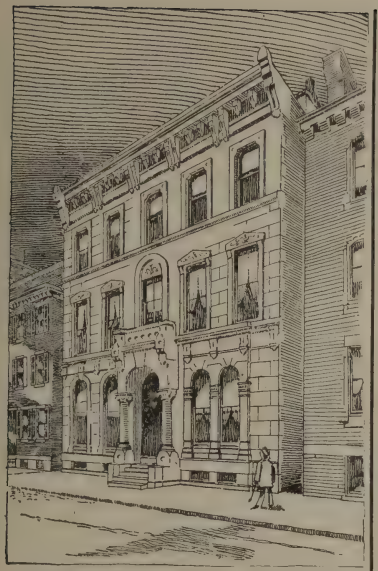

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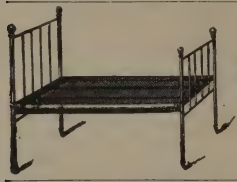

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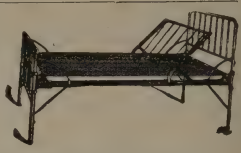

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11 to 12.		Dr. Zentmayer. *Children's Hospital.*			Dr. Zentmayer. *Children's Hospital.*	
2 to 4.	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*
4 to 5.	Prof. Jackson. *Polyclinic.*	Prof. de Schweinitz. *Polyclinic.*	**Adj. Prof. Schneideman** *Polyclinic.*	Prof. Risley. *Polyclinic.*	**Adj. Prof. Schneideman** *Polyclinic.*	Adj. Prof. Phillips. *Polyclinic.*
EAR.						
1 to 2.	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*
2 to 3.		Prof. Randall. *Children's Hospital.*		Prof. Randall. *Children's Hospital.*		Prof. Randall. *Children's Hosptial.*
NOSE AND THROAT.						
11 to 12.	Dr. Freeman. *Children's Hospital.*		Prof. Watson.3 *Howard Hospt.*	Dr. Freeman. *Children's Hospital.*		Prof. Watson.3 *Howard Hospt.*
2 to 3.	Prof. Watson. *Polyclinic.*	Prof. MacCoy.4 *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*
3 to 4.	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*

1 Systematic course on Refraction, Ophthalmoscopy, Muscular Anomalies, etc. 2 Prof. de Schweinitz has his service at the Philadelphia Hospital during Nov., Dec., Jan'y, May, June, and July. 3 February to August inclusive. 4 Systematic Lectures.

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Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9 to 10.	Dr. Thorington. *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*	Prof. Jackson.1 *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*	Prof. Jackson.1 *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*
10 to 11.	Adj. Prof. Adler. *Rectal Diseases.*	Prof. Taylor. *Children.*	Prof. Baldy. *Gynæcology.*	Prof. Baldy. *Gynæcology.*		Prof. Taylor. *Children.*
11 to 12.	Prof. Morton. *Surgery.*	Prof. Steinbach. *Surgery.*	Prof. Davis. *Obstetrics.*	Prof. Davis. *Obstetrics.*	Prof. Morton *Surgery*	Prof. Steinbach. *Surgery.*
12 to 12.45.	Prof. Cohen. *Medicine.*	Prof. Griffith.2 *Medicine.*	Prof. Cohen. *Medicine.*	Prof. Griffith. *Medicine.*	Prof. Cohen. *Medicine.*	Prof. Griffith. *Medicine.*
12.45 to 1.15. Intermission for Luncheon.						
1.15 to 2.	Prof. Baer. *Gynæcology.*	Prof. Randall. *Otology.*	Adj. Prof. Seiss. *Otology.*	Prof. Randall. *Otology.*	Prof. Baer. *Gynæcology.*	Prof. Randall. *Otology.*
2 to 3.	Prof. Watson. *Laryngology.*	Prof. MacCoy. *Laryngology.*	Prof. Wilson. *Orthopædics.*	Prof. Watson. *Laryngology.*	Prof. Wilson. *Orthopædics.*	Prof. Lee. *Orthopædics.*
3 to 4.	Dr. Bassette. *Neurology.*	Prof. Mays. *Chest.*	Prof. Mills. *Neurology.*	Prof. Mays. *Chest.*	Prof. Mills. *Neurology.*	Prof. Mays. *Chest.*
4 to 5.	Prof. Jackson. *Ophthalmology.*	Prof. de Schweinitz. *Ophthalmology.*	Prof. Simes. *Genito-Urinary.*	Prof. Risley. *Ophthalmology.*	**Adj. Prof. Schneideman** *Ophthalmology.*	Prof. Neilson. *Genito-Urinary.*
5 to 6.	Prof. Roberts. *Surgery.*	Prof. Slocum. *Gynæcology.*	Adj. Prof. Bower. *Surgery.*	Prof. Deaver. *Surgery.*	Prof. Slocum. *Gynæcology.*	Dr. Brinkman. *Surgery.*

1 Systematic Lectures. 2 From Feb. to Aug. Dr. Carpenter will substitute on Tuesdays during Prof. Griffith's term at Howard Hospital.

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THE

PHILADELPHIA POLYCLINIC.

VOL. II JUNE, 1893. No. 6.

CONVERGENT STRABISMUS AND ITS RATIONAL TREATMENT.[1]

BY SAMUEL D. RISLEY, A. M., M. D.,

PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC, SURGEON TO WILLS EYE HOSPITAL, LECTURER ON OPHTHALMOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

Gentlemen:—I call your attention to-day to a group of four cases of strabismus convergens, now under treatment at the clinical service, and will make them the basis of a few practical remarks regarding the management of this interesting and important affection. Its importance in the mind of the surgeon will vary in some measure in accordance with the ideals he desires to reach as the result of treatment.

If the convergence is regarded as a simple deformity, which for cosmetic reasons he wishes to overcome, the task before him is not a very difficult one, since his patient's desire to be freed from a gross deformity is readily satisfied in most cases of convergent squint by properly performed tenotomies.

If his ideal, however, is to maintain binocular vision throughout life for the child who is brought to him with a periodical or intermittent strabismus his task is a more difficult one, and if successfully accomplished will be done only through a thorough understanding of the intricate physiological problems involved in the etiology of the affection. The surgeon who contents himself by tenotomy

[1]Clinical lecture delivered at the Polyclinic Hospital.

of the muscles of every squinting child will in subsequent years have much cause for self-condemnation.

There is marked similarity in the history or symptomatology of the affection. Usually during early childhood, from two to five years of age, its beginning is noted by the anxious parents. It may be many weeks or months even before they are convinced that their fears are not groundless, so intermittent and evanescent is the affection during its earliest history. The eye is seen drawn strongly inward, but when attempt is made to verify the observation the eyes are once more parallel, and the parents are left in doubt.

But soon the phenomenon is repeated, and with steadily increasing frequency, until there is no longer room for doubt, and the child is taken for professional inspection and advice. It is cause for congratulation if wise advice is received at this early stage of the affection, for it is yet possible in typical cases to break up the tendency to convergence and maintain binocular vision. If neglected, the subsequent history will depend in some measure upon the nature of the underlying etiological factors. Permit me to say here that affections of innervation are excluded from these remarks, except as we shall mention them for purposes of differential diagnosis.

The intermittent or periodical character of the affection soon gives place to a state of permanent convergence, which will present one of two varieties of phenomena. One eye may be habitually drawn inward while the other is always the fixing eye; or the patient may fix or converge with either eye quite independently, but one or the other eye will always converge, in which case it is known as an *alternating squint.*

In both cases they are *concomitant.* That is to say, if the fixing eye is covered, and thus excluded from vision, the converging eye turns outward to fix any indicated object; while the covered eye rolls in toward the nose. At no time are the visual axes parallel. This is easily demonstrated on each of these four cases, all of which are examples of *concomitant converging strabismus.*

In one of them another phenomenon is present, not

observed in the others, and I call your attention especially to this case, because I wish to place you on your guard, whenever you observe this peculiarity. You will notice that the right eye turns inward strongly, but also upward and comes downward and outward to fix, while its fellow, the left eye, comes directly outward but with an unsteady wavering movement. I recall a case of this type seen in private practice, in which operative procedure was deferred while the existing high grade of refractive error was corrected by glasses. The child, after receiving the correcting glasses, was lost to observation for two years and returned with a wide divergence. The former convergence was due to the effort of the internal rectus to aid the vertical muscles in overcoming a high degree of hyperphoria. The real fault was in one of the superior rectus muscles, and it would have been a serious mistake to have cut the internus. This is a not infrequent error in the surgical management of strabismus, this fault in the vertical balance of the eyes being overlooked, and the error being once committed is difficult to mend.

In typical cases of strabismus, in their earlier history certainly, you will be able to separate them from ocular paralysis by the fact that the degree of movement in all directions is equal for both eyes and quite normal, whereas, in affections of innervation the movement is limited in the direction of the faulty muscle. Moreover, in strabismus, the image in the converging eye is excluded from mental notice, while in paralysis there is annoying diplopia.

Strabismus may then be defined *as a defect of muscular balance, characterized by the fixing of one eye upon the observed object, while the other deviates from its normal direction, the degree of movement in each being equal and normal.*

I come now to speak of the causes of this curiously interesting affection. There are a few cases of convergent strabismus associated with myopic refraction of the eye and still fewer in eyes which are emmetropic. I have observed but one such case. With rare exceptions it is one of the concomitants of hypermetropic refraction. I have already discussed with you the important relation existing between

the power of accommodation and the ocular balance in these hypermetropic eyes, and then took occasion to teach the intricate relation of cause and effect, not only in the production of strabismus, but in causing a much larger group of muscular anomalies, in which there is a tendency to deviation from parallelism of the visual axes, but which is nevertheless successfully resisted. I will, therefore, pass over this all important phase of the subject.

It is interesting to inquire, if hypermetropia is the cause of strabismus convergens, why do not all cases of hypermetropia develop this tendency?

It is possible that in some cases the convergence is favored by some peculiarity in the shape of the face and the orbit, or in others by some anomaly of development in one or more of the ocular muscles; but a brief study of a large group taken from my private case books revealed some interesting facts in this connection. The exact figures I leave for a more elaborate study than I can give in these clinical remarks, but in a very large percentage of the cases the converging eye was the more defective. That is to say, the degree of refractive error was in simple H, higher in the squinting eye than on the other side; or there was simple H in the fixing eye and astigmatism, either simple or associated with H, in the converging eye. In a word, the nature of the existing anomaly was such as to disturb the function of the habitually squinting eye more than on the other side, and probably determined the occurrence of strabismus. When the strabismus was alternating the defect was almost without exception not high and was the same in degree or approximately so in each eye.

In cases of alternating squint, or as long as the affection remains intermittent, the acuity of vision is not reduced, but no sooner does the deviation become constant than the eye begins to suffer a diminution of vision which is progressive until, in cases of long standing, the power of fixation is lost, and even the largest letters cannot be made out. The eye, however, never becomes totally blind. The field of vision on the squinting side remains useful in preventing accident, so that such persons do not suffer the same

inconvenience at a street crossing, for example, as one who has suffered the loss of one eye.

The ophthalmoscope throws no light upon the cause of the reduced vision, since there is no discoverable organic change in the retina. Opinions differ regarding the nature of this amblyopia of the squinting eye. Some think that it precedes the occurrence of the strabismus and indeed causes the convergence, but admit that it increases after the establishment of the squint.

It is not always possible to demonstrate the error or correctness of this view, since both the amblyopia and convergence are present when the case is first seen by the surgeon. That the amblyopia steadily increases, however, cannot be denied since it has been so frequently demonstrated by observation. While this view then may be correct in some cases it certainly is not true for many others.

The explanation which is offered for its occurrence is that in consequence of the habitual suppression of the image, thus excluding the eye from participation in vision, it loses the power to see. That the senses can be sharpened by strict mental attention, is a fact we all recognize, and that we can by psychical seclusion set aside physiological sensibility, is probably illustrated by these cases of amblyopia from disuse.

The correctness of this explanation seems to be demonstrated with sufficient clearness by the following considerations. In the first place, its occurrence can be prevented by a forced exercise of the eye, or when present, if not of too long standing, it can be overcome by the same means. I recall the case of a boy six years old, who had had strabismus for about one year.[1] The vision was reduced to one-half in the converging eye. One month after a successful tenotomy and daily exercise of the eye, the vision rose to normal sharpness. It is not unusual to see well marked improvement in the vision rapidly take place after tenotomy. The following case illustrates this fact with much force:

[1] Strabismus Convergens with special reference to its Etiology. *Medical Times* April 12th and 19th, 1873. By S. D. Risley, M. D.

In 1869, a patient, aged 15, had tenotomy performed on both eyes, at the Wills Hospital, for convergent strabismus; she was then "almost blind" in the right eye; correcting glasses were not given. I saw her four years later. She then had a recurrence of the strabismus, but the right, which had before been the converging eye, was now the fixing eye, and had normal acuity, while the left or converging eye, which before had "good vision" was reduced to $v = \frac{1}{10}$. She had H = 3. D. The refractive error was corrected and tenotomy again performed on both eyes. The amblyopic left eye was exercised on the finest print which could be deciphered, one or two hours daily, the right eye being closed by a light bandage. Three months later there was no return of the convergence and $v = \frac{3}{4}$ in the left eye, and 1 in the right. In this case both eyes had in turn been amblyopic, and both were restored to normal acuity of vision.

When the amblyopia is of long standing, however, there is no hope for restoration of useful vision. You will see, therefore, that the surgeon has a higher and more important duty before him, in undertaking the management of a case of strabismus, than to merely overcome a deformity which is annoying to the patient and his friends. It is the maintainance of useful binocular vision. That this can be done I have frequently demonstrated in practice.

Very recently I was consulted for a change in the correcting glasses by a patient I had seen three years ago, with a marked converging strabismus of a year's standing, and to whom I had given correcting glasses. There was no longer any tendency to convergence, the patient enjoyed binocular vision, and the most rigid tests demonstrated orthophoria.

When consulted by these young patients, developing convergent strabismus, a mydriatic and protecting dark glasses should be ordered. The paralysis of the accommodation by the mydriatic, breaks up for the time being the intimate relation between convergence and accommodation, and often in a very few days you will be gratified by seeing the convergence disappear. It is frequently necessary to continue the drug for a week or longer. If the convergence is

of too long standing you may be disappointed but in either case the existing error of refraction should be as carefully corrected as possible, by accurately fitting spectacles, and the mydriatic stopped.

If the correction is accurate the strabismus will not return in a large number of these little patients. If it does I call in question the accuracy of the glasses and go over the work again, with or without the mydriatic. The glasses should be worn constantly. For a long time the tendency to convergence remains, becoming manifest as soon as the glasses are removed.

When failure follows this procedure it may be due to a permanent organic change in the converging muscles and will be relieved only by tenotomy. But this should not be performed until the glasses have been worn for two or three months, or even longer, if any progressive diminution in the convergence is noticed. Another, and I think a frequent cause of failure, is the absence of a proper vertical balance between the eyes, i. e., hyperphoria. This may often be demonstrated by a trial prism, with its base up or down as the case may be, before the squinting eye.

REMARKS ON THE TREATMENT OF ORGANIC HEART LESIONS WITH SOME VALUABLE FORMULAS.

By A. E. Tussey, M. D.,

INSTRUCTOR IN DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC; PHYSICIAN TO THE OUT-PATIENT DEPARTMENT OF THE RUSH HOSPITAL FOR CONSUMPTION AND ALLIED DISEASES.

The presence of a valvular lesion of the central organ of circulation is by no means always an indication for therapeutic interference. Nature is able in a great many cases to make all necessary repairs without the aid of a physician, in some cases, for a longer and in others, for a shorter period of time. The circulation being carried on as well perhaps as if no lesion existed; at least well enough to give the patient no inconvenience from its presence. In other words;—

reparation is equal to the amount of injury done to the heart and through it to the circulatory apparatus. As the strain on the auricles and ventricles becomes greater, the strength of their muscular contractions is augmented in an equal ratio.

The administration of such cardiac tonics, in these cases, as digitalis, strophanthus, caffeine, convalaria, etc., would be meddlesome interference and could only be attended with evil results, viz.: by a degree of hypertrophy and consequent over-action of the heart that would be attended by very unpleasant symptoms and in some cases a fatal issue would be the result of their administration if given for any length of time.

Now this is especially true with reference to aortic insufficiency and aortic stenosis, two conditions in which the heart is often able for a long time to take care of its own injury.

It is claimed by some observers that the use of digitalis in the above mentioned conditions, before the *mitral valve has become secondarily involved*, is harmful. *There is a proper time* for the administration of cardiac tonics in these cases, and I believe that the too-early administration of the drug is what has led to this common prejudice. I wish to say too with a great deal of emphasis that in most instances, we should not wait until the mitral valve has become involved; by so doing we lose much valuable time, by depriving ourselves of this most valuable agent when its use would be attended by the most satisfactory results.

In cases where a partial rupture in compensation has been produced by some slight impairment of the *general* health, *general tonics* answer all the indications for treatment. In a second class of cases where the injury to the heart and circulation is more serious, a good general tonic, with small doses of a special cardiac tonic continued for some time may restore the circulation for a period of many years.

In a third class of cases or degree of injury, long before the mitral valve has become involved, large doses of *digitalis* may be given for a *long time*, and when a large amount of hypertrophy is present.

I think it may be laid down as a safe rule to follow, that

in all cases of organic heart lesion where the arterial pressure falls below its physiological standard, indicating a lack of propulsive power in the ventricles or aorta, *special cardiac tonics* including digitalis may be given with good results, if given in proper doses and continued for the proper length of time.

Let it be aortic stenosis, aortic insufficiency, or mitral regurgitation, with a large amount of hypertrophy present in each case, if the left ventricle cannot supply the tissues with that amount of nutritive fluid which they demand, use digitalis, and use it with all the freedom the urgency of the case requires and in no instance can we obtain better results than by its free administration in the advanced stages of aortic regurgitation, when the left ventricle is showing symptoms of yielding to the distending force within its walls,—to wait till the mitral valve yields to the internal pressure would be criminal neglect.

The following prescription with the special cardiac tonics increased or decreased to suit the gravity of the lesion, will be found useful:

(No. 1.)

℞ Quin. Sulph.
Ext. Gentianae āā gr. xxx
Strych. Sulph. gr. j
Ft. pil. No. xxx.

Sig.: One, three or four times daily.

For slight disturbance in the circulation due to some impairment of the general health.

(No. 2.)

℞ Acidi Arseniosi
Strych. Sulph. āā gr. j
Digitalis pulv. fol.
Quin. Sulph. āā gr. xxx
M. cap. No. xxx.

Sig.: One, 4 times daily.

The arsenic in the above formula makes it particularly useful at the time of life when a retrograde change is taking place in the tissues,—when evolution has been succeeded by

involution. Even where we have cause to believe that fatty degeneration is taking place in the cardiac muscles, arsenic often exerts a most salutory influence on the morbid process.

The strychnia and quinine give tone to the cardiac ganglia and the digitalis by increasing the strength of the ventricular contractions enables them to empty themselves more completely, thus increasing the blood supply to the system. This leads me to make some remarks on the use of digitalis when we feel sure that the heart muscles have undergone fatty degeneration.

Autopsies have time after time revealed the presence of extensive degeneration, where digitalis had been given with signal benefit. I believe that in all such cases the danger from asystole is greater than in the danger from rupture of the ventricles.

(No. 3.)

℞ Caffeine gr. lx
Strych. Sulph.
Acidi. Arseniosi āā gr. j
Quin. Sulph. gr. xxx
Ft. cap. No. xxx.

Sig.: One, 4 times daily.

In mitral regurgitation with symptoms of pulmonary congestion present, Professor Mays is of the opinion that caffeine is more useful in this form of trouble than in aortic troubles and the accuracy of his observations leads us to accept this opinion.

(No. 4.)

℞ Am. Muriat. gr. lx
Capsici gr. v
Digitalis pulv. fol.
Quin. Sulph. āā gr. xxx
Strych. Sulph. gr. j
Ft. cap. No. xxx.

Sig.: One, 4 times daily.

In mitral regurgitation with an attack of acute bronchitis, producing distressing dyspnoea on slight exertion, No. 4 may be used with a great deal of benefit.

(No. 5.)

℞ Resin. Guaiac.
Digitalis pulv. fol.
Quin. Sulph. āā gr. xxx
Strych. Sulph. gr. j

In valvular lesions, with a rheumatic element present.

℞ Inf. Buchu.
Inf. Digitalis āā ℥ jv
Potass Acetat. ℥ ss—

Sig.: Table-spoonful three times a day.

To relieve dropsical effusion due to venous congestion.

This subject will be continued in a future issue of this journal.

A CASE OF PUERPERAL ECLAMPSIA.

By Kate W. Baldwin, M. D.,

PHILADELPHIA.

The following case is interesting because of the family history. One sister died in convulsions twenty-four hours after the birth of her *first* child. The first convulsion occurred about two hours after delivery; followed by forty-two in the next eight hours, not counted after that. It is reported that the placenta was *not* delivered.

A second sister had convulsions for three days after the birth of her *first* child. Since then she has had three children and no convulsions at the time of delivery, but has had "fits" every few weeks since the birth of the first child. One brother has had "fits" from childhood; also a cousin on the father's side.

Mrs. S——, nineteen years of age; five feet high; broad, well developed pelvis, puberty at seventeen, married nine months. Pregnancy perfectly normal up to the last week. The urine was examined February seventh, and not even a *trace* of albumen found. About one week before delivery her limbs began to swell, but she did not think it necessary to report the fact.

Patient began to have pains at four o'clock the morning of February 23; sent for me about five o'clock that afternoon. She had been up around the house all day. Examination showed dilatation to the size of a half dollar; head presenting. Dilatation was slow, but the head came down all right until it reached the pelvic floor. The pains were then as strong, or stronger, than they had been at any time, but the head was too large and hard to be forced through a somewhat *narrow* outlet. At six o'clock the next morning chloroform was given, the forceps applied and a ten pound boy quickly delivered. The shoulders causing as much trouble as the head. The umbilical cord was twice around the child's neck, and he was partially asphyxiated. There was extreme phimosis and double hydrocele.

After waiting for about twenty minutes, with steady pressure on the uterus, the placenta was not expelled. Credé's method was tried with no effect and examination showed the placenta quite adherent to the fundus of the uterus; I hesitated, for a moment, as to just what was best to do, when the patient went off into a most fearful convulsion and action, not hesitation, was in order.

Chloroform was at once given which quickly relaxed the spasm. This was followed by an enema of bromide of sodium gr. 30; and a hypodermic of morphia sulph. gr. ¼. She slept for half an hour, when we very carefully lifted her around on the bed, only to have her go into another, but less severe convulsion. Chloroform was again given and she slept until half past eight o'clock. Chloral gr. 15 and bromide gr. 30 were given by enema and calomel gr. v. by the mouth.

Examination showed the placenta as before. Chloroform was given and with the finger the placenta dissected off and delivered. This was followed by a bichloride douche. The chloroform was not continued for the douche and just as it was finished the patient had a very slight convulsion.

I left the house at ten o'clock and returned at four. The patient had slept the greater part of the time, but had had a slight convulsion at one o'clock; which the nurse thought was caused by the disturbance in giving an enema of bro-

mide and chloral. Urine had been freely passed but the bowels had not been moved. Elaterium gr. $\frac{1}{10}$ was given to be repeated until the bowels should be freely opened. After one-half grain had been taken there were several large watery evacuations, followed by profuse sweating.

Twenty-seven hours after the last convulsion an attempt was made to put the baby to the breast, but at the slightest touch of the child the mother showed signs of a convulsion. She did not see the baby again until the fourth day when it was put to the breast and nursed without causing any irritation to the mother.

The first urine passed was about ten per cent. albumen, it gradually diminished, disappeared on the fifth day and did not return. The mother made a good recovery and both she and the baby have done as well as any one could wish. I did not attend the other daughters, and the family history was not confided to me until after Mrs. S——'s delivery.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Antiseptic Irrigation Before and After Labor.—Dr. T. Ridgway Barker, urged that the external parts about the genital region be carefully and thoroughly scrubbed with soap and hot water with the onset of true pains. This is followed by a second cleansing with 1-1000 bichloride of mercury solution, and a final washing with boiled water. For the treatment of the canal itself, a fountain syringe is filled with one quart of hot, boiled water containing bichloride of mercury 1-5000, with the ordinary nozzle made for vaginal use, rendered aseptic. This is introduced into the vagina and carried up to the anterior vault of the canal, the stream of water having been running freely before introduction, to expel all air from the tube. When about half the solution has been used, the nozzle is slightly withdrawn and made to enter the posterior pouch. In this way the whole mucous surface is irrigated, and at the same time some of the overflow bathes the cervix.

This is done with the female in the semi-recumbent posture, that free drainage may be secured and no fluid

permitted to collect behind the posterior margin of the vulva, and followed by a free bathing of the parts with boiled water, so that absorption of the mercury may be rendered impossible.

Some extremists have gone so far as to recommend the employment of vaginal antiseptic injections as early as one week, or more, before the onset of labor, and they advise continuing them until the first stage is well advanced. This is perhaps, carrying the principal of antisepsis too far, but better that than not far enough.

It is but fair to assume that there is in every uterus after delivery, a cavity which contains material which, if it becomes infected, will place the patient in great danger.

It would appear from a study of the clinical symptoms of puerperal infection, that the first manifestations occur on the third or fourth day; in other words, the lochial discharge in the first twelve hours is so free that no contamination by micro-organisms is possible, but on the second day, the discharge not being so abundant, the germs gain a footing.

But where is the wisdom of waiting until these disintegrating masses become infected before bringing about their expulsion? Disintegrating organic matter has no place beside the living, and the wider the range of separation the safer for the individual. When we resort to vaginal irrigation at the expiration of twenty-four hours we find the canal in a condition suitable for such a procedure. If the amount of carbolic acid does not exceed one drachm to the pint of warm water, and free drainage is secured, surely no poisoning is possible. Too much stress cannot be laid on the importance of having the female occupy a semi-recumcent position so that the escaping fluid may tend to gravitate toward the patulous vulvar orifice. The pressure by which the solution is forced into the passage should be as low as possible, the object being to irrigate rather than inject.

As is well known, when the woman lies on her back the discharges accumulate at the posterior and inferior portion of the vagina, and form a pond well-suited to become the feeding ground for pathogenic organisms. By destroying this nest, which antiseptic irrigation accomplishes, we stop

the production of ptomaines and relieve the system of further danger from infection. Appreciating, therefore, the great advantages and the increased safety to the parturient, can we do better than adopt for our motto, in obstetrics, and carry out in practice—"CLEANLINESS, FIRST, LAST, AND ALL THE TIME."

DR. GEORGE I. MCKELWAY not only cleansed the external genitalia with soap solution and with the antiseptic, but also cleansed the vagina in the same way. He did not use corrosive sublimate, but a two per cent. solution of creolin and green soap. This solution, he used with friction with gauze or clean muslin.

In a perfectly normal labor, the vagina and the hands of the obstetrician being perfectly clean, there might be no reason thereafter for the use of the douche or injections, either of the uterus or vagina. But, practically, he did not believe that we can be absolutely sure of this and the risk from the douche is more than offset by its advantages. For the douche he used a two per cent. solution of creolin.

DR. CHARLES P. NOBLE: It is well known that the skin cannot be disinfected with certainty, no matter what efforts be used, and unless the reader of the paper has some experiments to bring before us showing that the vaginal secretions are made sterile by the use of the douche, I should doubt that such a result was accomplished. There is no doubt that if there is a collection of foul discharge in the vagina the douche will wash it out, and in so far it is an excellent practice.

He has long believed it was more important to study the pregnant woman some weeks prior to labor: and if vaginitis be present to treat it in the ordinary manner, and cure it before the occurrence of labor. This would accomplish far more in the prevention of puerperal fever and sore eyes than the simple ante-partum douche. If there has been no leucorrhœal discharge, he does not use the douche.

DR. GEORGE M. BOYD thought ante-partum and post-partum vaginal and uterine disinfection a considerable importance. His practice is to give the patient a full bath

and an ante-partum bichloride douche. The post-partum douche is carried out regularly, not only for its disinfecting qualities, but also as a means of cleanliness.

Dr. Joseph Price had seen in the last six years over one hundred puerperal deaths occurring in his consulting practice; but had nearly thirteen hundred lying-in patients at the Preston Retreat without a death from any cause. The practice at the Retreat has been that of the greatest cleanliness possible, to obtain from the admission to the discharge of the patient. He always regarded a woman after labor as a wounded patient, and treated her as such. Sometimes the wounds are deep and severe, and without proper antiseptic precautions, many of these women would die after childbirth. When he found a woman after labor dying with high temperature, he generally found a severe lesion of the perineum, vagina, or cervix.

He agreed as to the importance of the ante-partum and post-partum douche. But looked upon creolin and carbolic acid as worthless. He valued the ante-partum douche quite as much for the saving of the infant's eyes as for saving the life of the mother.

In the thirteen hundred women admitted to the Retreat, there were three ophthalmias. One was delivered in the gutter, another in the hallway, and the third in the bath-room, all before a bath or douche. There has not been any other case in the Retreat for two years. He employs as a solution, corrosive sublimate 1-2000. He scarcely approved of the friction methods.

Thyroid Gland for Therapeutic Use.—Dr. S. Solis Cohen exhibited specimens of the desiccated glands.

Dr. William H. Bennett exhibited a specimen of "Thyroidine," prepared by macerating the chopped thyroid gland in glycerin and water, acidulating the filtered extract with phosphoric acid, neutralizing the acid, and precipitating by the addition of calcium hydrate. The precipitate is filtered out, washed, and dried over sulphuric acid. The process yields but a few grains to the pound of gland. He

believed it would be found to be better to use the glycerin extract in the treatment of thyroid disease.

Diseases of the Tympanum and Cerebral Complications.—Dr. S. MacCuen Smith, hoped to deeply impress the busy practitioner with the importance of the early recognition and treatment of aural diseases in general. Of all human ailments, diseases of the ear have been the most neglected. This is due to the fact that in former years in many of our medical colleges, otology received only the minimum consideration.

From a medico-legal standpoint the subject is of the utmost importance, for certainly the time is not far distant when it will be regarded as illegal for one to so neglect a suppurative disease of the tympanum (either acute or chronic) that fatal cerebral complications result therefrom. Brain abscess and meningitis, as the result of ear diseases, are in the great majority of cases preventable. It, therefore, becomes the imperative duty of every practitioner of medicine to properly diagnose and treat such cases. This duty is especially important to the physician of general practice, inasmuch as he is usually the first to be consulted, and his direction and care of the patient at that critical time is often of vital importance.

It has been estimated by various authors that from 43 to 76 per cent. of all brain abscesses arise, either directly or indirectly, from suppurative disease of the middle ear. The same figures would probably not exaggerate the large number of cases of meningitis and pyemia which, on account of their doubtful etiology are termed and accepted as "obscure." Barker, as quoted by Keen and White, estimates that not far from two thousand deaths, caused by diseases of the ear, annually occur in Great Britain, with a population of little more than one-half that of the United States. Should these cases receive early recognition and proper care, the mortality, at least, would be greatly reduced and the fatal complications in most cases be prevented.

As a rule, an acute inflammation of the tympanum is painful in the extreme; and yet it must not be forgotten that we will at times find a case where the membrana tympani will rupture with the consequent flow of a discharge, which will be the first and only symptom to attract the patient's attention. These cases, however, yield promptly to treatment, unless dependent upon some enfeebled condition of the constitution. On account of the symptoms not being urgent they attract but little or no attention, and, therefore, are allowed to form a good foundation for a chronic purulent suppuration with all its possible serious consequences.

An acute suppurative otitis media is usually the result of the acute non-suppurative variety (commonly known as earache) the symptoms of which briefly are, a sense of fulness in the head accompanied by more or less tinnitus and so-called "neuralgia." In my experience these symptoms precede the real pain several hours, or in some cases it may be several days. The pain, which is very severe, generally occurs at night, and is referred to the ear and along the Eustachian tube. In most cases considerable fever is present, and marked impairment of hearing. As the pus accumulates the bulging outward of the membrana tympani correspondingly increases, and the tension resulting therefrom intensifies the pain almost beyond endurance. It is in this state or stage of the disease that immediate relief is so earnestly demanded for the present and future welfare of the unfortunate sufferer.

Should the patient have the good fortune to have the distended drum promptly punctured in order to promote the free escape of pus, and this followed by gentle inflation through the Eustachian tube, together with antiseptic care and the use of leeches, the hearing will in most instances be quickly recovered.

Brain and mastoid implications arising from a suppurative inflammation of the ear are in nearly all cases a result of the chronic variety, although I have seen several fatal cases from the acute suppurative form. There is usually a

history of chronic discharge, frequently even extending over many years.

Any patient suffering from a suppurative otitis media, be it of the continued or recurrent form, is in constant danger (either from exposure to cold or traumatism) of a fatal termination.

Recent bacteriological investigations demonstrate beyond question that the quantity and especially the quality of the discharge is an all-important factor in considering the prognosis of individual cases.

Generally speaking, a discharge of pus without fetor is considered harmless, and, therefore, in most cases receives little or no notice, unless for cosmetic purposes. Although the number of observations on the pathology of the putrefactive changes within the ear have been limited and confined to the researches of only a few investigators; sufficient information is at present made known from the recent discoveries in micro-biology to establish the fact that non-fetid pus from the ear contains large quantities of pathogenic cocci, and is, therefore, highly infectious and dangerous to life. In fetid pus it is true that cocci are also found, but they are of the diplococci variety, and the bacilli which are also present largely predominate.

Caries and necrosis are a frequent serious complication of suppurative otitis, and are produced by ulceration of the inflamed mucous membrane of the tympanum, extending to the deeper layers of the membrane (which act as the periosteum on the inside of the osseous cavities) and finally by attacking the bone itself.

In suppurative otitis media brain abscess may be induced by direct continuity of structure, or the infectious matter may be communicated to the dura mater, causing subcranial abscess or diffuse meningitis, or to the bloodvessels in the diploe giving rise to osteo-phlebitis, thrombosis of the lateral sinus, or pyemia. Or, as is the case in suppurative otitis externa, likewise in neglected otitis media, the pyogenic germs may find their way between the opening formed by the non-union of the vaginal and mastoid processes, thus

producing a superficial mastoid abscess. Through carious involvement of the malleus and incus there is frequently a direct communication between the tympanum and the mastoid antrum and cells, this being the usual way in which pus invades these cavities and forms a true or deep abscess.

There are many other routes along which the infection may travel; it may extend through the hiatus fallopii or the aqueductus vestibuli, or down the internal auditory meatus, or it may extend along some of the numerous small veins which run between the internal and middle ear, on one hand, and the dura and pia mater on the other.

As all inflammatory conditions and abscesses of the brain are most serious, and especially so when dependent upon diseases of the temporal bone; it, therefore, becomes our imperative duty to make every effort to prevent these unfortunate complications, rather than to hope for their relief after having once developed.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Uterine Cancer.—Dr. J. M. Baldy exhibited specimens illustrating different phases of the disease. The historic symptoms of pain, hemorrhage and bad-smelling discharge, as laid down in the books, are all very well, but when we come to practical work, we often find that cancer has advanced to an irremedial stage before these symptoms appear. A specimen shown was one of carcinoma of the fundus, where the only symptom was hemorrhage after the menopause. Where we have a stormy menopause, we should always bear in mind, cancer, and look for it, and if, after the menopause has been established, irregular uterine bleeding begins, a strong presumptive evidence of this disease is established.

There is only one treatment for cancer, but it is a question how far it is curative. There is nothing to be expected from medical treatment or minor surgical treatment. It is a radical operation or nothing. He would

recommend vaginal hysterectomy at once. In many cases he does not curette the uterus to obtain a specimen for microscopical examination, never as yet having found the pathologist who could give definite information from the scraping. The clinical symptoms are far the most valuable. In a patient two or three years past the menopause and flowing irregularly, where no other cause can be found for the hemorrhage, it is sufficient to get rid of the uterus by vaginal hysterectomy. It is better for her not to take a single chance.

He has come to the opinion that in cases of complete prolapse after the menopause, with large, heavy uteri, measuring five or six inches in length, it is a waste of time to attempt to make a cure by a plastic operation, and in these bad cases of prolapse does not hesitate to recommend removal of the uterus. It is surprising how often you will remove a cancer of the uterus in these cases.

Dr. Charles P. Noble thought that we could not say too much in regard to the subject, or to insist too strongly that the old doctrine of climacteric hemorrhage is false, and that it leads to bad results. Undoubtedly climacteric hemorrhage is due to cancer, fibroid tumors or endometritis; and it requires treatment. Until the doctrine of climacteric hemorrhage is finally buried, we shall continue to bury a large number of women having cancer that otherwise might have been cured by an early operation.

Dr. Addinell Hewson reported a case of cancer of the uterus which he removed post-mortem. The history was that of climacteric hemorrhage. The patient had informed him that she had had several hemorrhages at intervals of one or two months, and that in nearly every instance the bleeding had continued for ten days and had been profuse. Before death, the woman passed fæcal matter from the uterus, and a tumor appeared in the left iliac fossa and extended up over the crest of the ilium and high up beneath the peritoneum. The uterus was fixed to the sigmoid flexure, and the ilium six inches from its entrance into the caput coli was slightly adherent. A growth occupied the

posterior left lateral aspect of the uterus about the neck. The vagina was not implicated. There was a communication between the uterus and the middle portion of the rectum, and an abscess surrounding the external iliac vessels.

Dr. G. Betton Massey: To take out every uterus that is the source of an apparent continuation of the menstruation is a most careless way to deal with a grave subject. In many cases such hemorrhages are due to hemorrhagic endometritis, or to fibroid growths, and are easily amenable to treatment. Of course, where fundal cancer is diagnosed there are few of us who would say that the knife shall not be used, in spite of results that hardly warrant the operation.

Dr. Joseph Price: Schroeder calls attention to the fact that a watery discharge is characteristic of sarcoma of the fundus. In his experience this is about the only form of malignant disease that attacks the fundus. He has looked in vain for other forms of malignant disease. Sarcoma is the dirtiest intra-uterine disease that we find, as regards smell, filth, and quantity of discharge. The hemorrhage is very offensive, and the copious watery discharge is like the washings of meat. The uterus is large, often very large. The disease occurs in large, fleshy women, rarely in spare individuals.

The recognition of the indication is quite as important in uterine diseases as in disease of any other organ. We have no right to practice a surgical operation or write a prescription without a clear recognition of the indication. The indiscriminate practice of oöphorectomy brought surgery into disrepute; so the indiscriminate removal of the uterus will do precisely the same thing. He would with others, condemn operating for a suspicion.

Ovarian Poly-cyst, Removed During Chronic Bright's Disease.—Dr. Charles P. Noble presented a specimen of a large poly-cyst, with much solid material contained in its walls and having some three gallons of fluid contents, removed from a woman the subject of chronic Bright's disease. Having lost several cases with suppression of urine,

upon whom he had operated for inflammatory trouble in the uterine appendages, he felt that chronic Bright's disease was a bar to abdominal section, and advised against operation in several cases. This woman asked for operation when she was so distended that she could not lie down, and when the secretion of urine amounted to only six ounces in the twenty-four hours. The operation proved easy and was rapidly done. The convalescence was uneventful, being chiefly remarkable for the large amount of urine secreted. Eighteen ounces were passed the first twenty-four hours, as against an average of ten. In the case of inflammatory disease of the uterine appendages, he still believes that it is unwise to operate. Suppression of urine is almost sure to follow. The reason for the better results in tumor cases is plain—removing the tumor removes pressure from the kidneys and thus tends to assist in restoring their function. Chloroform was used as an anesthetic because of its supposed advantage over ether in being less irritating to the kidneys.

Hysterectomy for Soft Myoma.—Dr. Charles P. Noble presented the specimens removed in a hysterectomy for soft fibroid of the womb. The patient aged 57, multipara, first noticed the tumor about three years ago, since which time it had grown slowly until recently and of late more rapidly. She menstruated regularly until about a year ago, losing a large amount of blood. Some three months ago, she had a severe hemorrhage, which almost cost her her life. Pain has been a prominent symptom of late. He adopted the method of tying off the broad ligaments, amputating the cervix at the level of the vagina and covering over the stump with peritoneum, making it extra-peritoneal, as done by Dr. Baer. His experience with the method was extremely satisfactory.

Dr. B. F. Baer thanked Dr. Noble for his kind words regarding the method, but regretted that he did not follow it literally in the case which he presented this evening, for he regarded it as much simpler in execution and more correct in

principle than the method of Chrobak, which is essentially total extirpation.

At the last meeting of the Society Dr. Cushing, of Boston, in discussing this subject, also advocated the method of Chrobak in preference.

Regarding the irregular discharges from the uterus about the menopausal age, it is most important that they should be looked after carefully and regarded as pathological, as at all other periods of life. I have said a good deal during the last ten years about menopausal hemorrhage, but too much cannot be said, nor too often. Women should be educated to submit at once to intelligent investigation when abnormal discharges occur. We would then see fewer advanced cases of cancer, and would be able to save more lives by early operation.

He could not endorse the view that we should remove the uterus on a mere suspicion of cancer. This is not necessary, for when we see the case so early that we cannot diagnosticate positively by touch and sight, there is plenty of time to examine by the microscope. At this early stage there can be no cause for great hurry, and by care we may be saved the chagrin of having removed a normal uterus.

Dr. Baldy said his statement in regard to cases in which he would operate where there was a suspicion of cancer was meant to apply to cases in which the menopause had been established, and in which bleeding had come on afterward. In these cases it is frequently impossible to prove that there is cancer. Even the pathologist can give us no definite information from the specimens supplied by the curette.

Current Literature.

Heart Hypertrophy.—Dr. William T. Howard, in the *Johns Hopkins Hospital Reports*, analyzes 105 cases of heart hypertrophy from the records of the Johns Hopkins Hospital.

He adopts for comparison as the standard of normal heart weights 280 grammes for men and 260 for women, and believes that clinically the size of the heart can be determined with fair exactness. Percussion gives in the main the best results.

Twenty-nine per cent. of the 360 autopsies showed 105 well-marked cases of heart hypertrophy.

The following table gives the relative frequency of the conditions producing it:

Arterio-sclerosis	59. per cent.
Nephritis	13.4 " "
Valvular lesions	12.4 " "
Adherent pericardium	7.6 " "
Work	3.8 " "
Tumors	1.9 " "
Aneurism of heart wall	0.95 " "
Haemic plethora	0.95 " "
Total	100.00

These records throw a new light upon the frequency of arterio-sclerosis. After the age of 30 years this is by far the most frequent of the cardio-vascular diseases. It would be erroneous to claim that this great relative frequency of the occurrence of arterio-sclerosis obtained for all countries or even for all portions of this country. But these tables do show with startling clearness that arterio-sclerosis is a very much more common disease than is generally supposed. Of the 59 cases of heart atrophy in the whole list, of 40 years of age and over, 48 cases or 81 per cent. are due to arterio-sclerosis.

In mechanical obstruction to the circulation, heart hyper-

trophy is a condition very much to be desired. And the amount of hypertrophy present, if the individual is in fair health, may be taken as an index of the gravity of the lesion or lesions causing it. Just as the height of the body temperature in acute infective diseases may be regarded as a criterion of the degree of reaction which the body is exhibiting to the poison.

Treatment of Chronic Valvular Disease of the Heart.—Dr. James Tyson (*Therapeutic Gazette*) discusses the various heart tonics used in the treatment of chronic valvular disease of the heart.

Digitalis is a remedy always better intermitted to obtain its best effects. He believes that the greater apparent efficiency of the infusion is partly due to the fact that it is generally given in larger doses. One-half an ounce is not an infrequent dose of the infusion. This represents nearly three grains of the powder, or 20 minims of the tincture.

Of remedies which may be substituted for digitalis, strophanthus should, perhaps be first mentioned, not that it is always the best. Dr. Tyson has used it in doses of 10 minims or 20 drops every two hours for forty-eight hours, without interruption and with good results. It is undoubtedly better borne by the stomach than digitalis.

Caffeine is an admirable heart tonic in mitral regurgitation. One should not give less than 3 grains at a dose, seldom more, every three hours. When caffeine has been given in full doses for some time it produces mental symptoms quite characteristic, consisting in hallucinations. They, however, cease immediately when the drug is discontinued. Another effect of caffeine which sometimes interferes with its usefulness is its effect in inducing insomnia.

Sparteine sulphate, the author values very highly, especially where a diuretic effect is desired. The dose to rely upon is never less than $\frac{1}{4}$ grain, increased to $\frac{1}{2}$ grain, three, four, and five times a day.

Puerperal Sepsis; its Prevention and Cure.—Dr. William Warren Potter (*Annals of Gynæcology and Pædiatry*)

gives the following summary of rules for the prevention and treatment of puerperal sepsis.

Obstetric engagements once accepted should be faithfully fulfilled, no matter how awkwardly they fit. Apply the same rule of cleanliness to rich and poor alike. Decline service when this can not be done. Human life is too precious to jeopardize it by slip-shod, half-hearted or indifferent service.

The physician should be a model of cleanliness in body and clothing, and should insist upon the observance of similar conditions by all persons in and about the lying in chamber.

The delivery room, whether in hovel or palace, court, alley or avenue, should be simple in its furniture and hangings, and be cleaned with soap, water, and whitewash (if possible to use the latter) immediately before occupancy by the puerpera.

The delivery bed should consist of a new tick filled with sweet and clean straw, covered with a blanket, impervious dressing, and a folded sheet, with other clean covering to be allowed according to season. Exceptions to this simple bed should be as few as possible, and in no event should a bed be substituted that has been used by the sick, or that is not beyond even a suspicion of infection.

The patient should be specially prepared for delivery by baths and enemata, vaginal douches and clean clothing; and labor should be conducted on the lines of absolute cleanliness, with few digital examinations, and a complete delivery of the secundines. Lesions of the genital tract should receive careful attention; rents of the perineum should be repaired, and so, too, in some instances should tears of the cervix.

Antiseptic solutions containing a germicide should be used for cleaning the hands and instruments of the operator. Intra-uterine irrigation with sterilized water should be carefully employed after operative midwifery, either manual or instrumental.

Finally, if sepsis proceed to suppuration and abscess, the

abdomen should be opened, pus cavities emptied, irrigation used and drainage established. If the uterus and adnexa become thoroughly infected they should be extirpated.

The Etiology of Prostatic Hypertrophy.—Dr. G. Frank Lydston, in the *Medical and Surgical Reporter*, says that the prostate, while it partakes of some of the peculiarities of an involuntary muscular structure, is anatomically and functionally a gland of a peculiarly sexual character. The participation of the prostate in the urinary function is secondary, and is a sequence of pathological conditions.

Granted the sexual and glandular function of the prostate, it is in the direction of the perturbation of this sexual and glandular function that we must look for an explanation of hypertrophy of the organ, or, in short, for all pathological disturbances which are not the direct result of traumatism or infection.

Hypertrophy of the prostate is, in all probability, due to overstrain of the organ during the period of its greatest sexual activity. This overstrain produces active congestion or hyperemia and glandular proliferation, which, if it persists, for a long time, is not followed by restoration to the normal condition, but by permanent hypertrophy.

Departure from the normal prostate comes on earlier in life than is usually supposed, a large number of individuals being affected.

In the majority of instances, prostatic hypertrophy is attributed to senile change, simply because the secondary results of enlargement do not manifest themselves until the patient is well along in years. It is conceivable that, although more or less prostatic obstruction may exist before middle age, residual urine may not accumulate in any great quantity until after the bladder walls themselves have begun to lose their elasticity by virtue of the physiological changes incidental to increasing age. Even admitting that residual urine has formed in considerable amount, there may be very little resulting disturbance until such time as germs penetrate the bladder and set up decomposition.

Senility, gout, rheumatism and general atheroma are in all probability, not the exciting causes of prostatic hypertrophy, but are determining factors in so far as they promote irritability of tissue, a tendency to connective tissue proliferation and a loss of elasticity of tissue.

In a perfectly normal old age, it is probable that the prostate should atrophy. That it does not do so more frequently is explained by the prolonged duration of the sexual function in the human species, incidental to the developmental effect of over indulgence and other causes of sexual over-stimulation.

It will be found by careful rectal examinations of men from the age of twenty upward, that a prostate which is perfectly normal in size, consistency and sensibility, is the exception rather than the rule.

That this aberration of the prostate is followed, in the majority of cases, by a return to a perfectly normal condition is highly improbable in the face of the fact that the majority of patients so affected lead lives which are so unphysiological from a sexual and dietary standpoint, that the condition of the prostate is more likely to become aggravated than improved.

There are certain cases of so-called prostatic hypertrophy of a circumscribed character, which should properly be termed fibro-myomata of the prostate, and in which the etiology is very obscure.

Book Notices.

TEXT-BOOK OF THE THEORY AND PRACTICE OF MEDICINE. By American Teachers. Edited by WM. PEPPER, M. D., LL. D. In two vols. Vol. I. W. B. Saunders, Philadelphia, 1893.

This work on medicine, destined, we feel sure, to become a most popular one, follows the fashion of the present day in that it is the production of a number of medical writers. This has the inevitable disadvantage that such a work is liable to lack in uniformity of excellence, although we con-

fess we cannot see but that this volume has entirely escaped that criticism. On the other hand, such a method of composition has here the advantage of presenting the views of a number of America's best-known teachers. The names of thirteen writers are included in the list of authors, and it is noticeable that these represent eight of the leading medical institutions of the United States.

It is with regret that we confine ourselves to the limit of a brief review, for the volume certainly deserves the critical consideration which lack of space forbids. The first chapter is a careful and exhaustive one on hygiene, by John S. Billings. It contains a vast deal of information in a limited space. Among the numerous subjects of which the author treats are expectation of life, causes of disease, food, exercise, habitation, water supply and disinfection.

Following this Wm. Pepper discusses ephermeral, typhoid, typhus, relapsing, cerebro-spinal, miliary and mountain fevers; also dengue, influenza and milk sickness. Some of these subjects demand and receive but brief notice. The article on typhoid fever, however, is an exhaustive one. That on influenza is excellent, as are the sections on typhus, cerebro-spinal and relapsing fevers.

James T. Whittaker handles scarlatina, measles, rubella, small-pox, vaccination, varicella, mumps and whooping-cough. All of these chapters leave little to be desired, excepting that the treatment of whooping-cough, unsatisfactory though it be, might have been considered at greater length with advantage.

Next in order comes a brief chapter upon septicemia and pyemia by Pepper, followed by those on acute tuberculosis, scrofula and syphilis, by W. Gilman Thompson. The article upon scrofula is short, and deservedly so. It becomes more and more a question whether the term should be retained in medical phraseology. The opinion is extending that the lesions of scrofula are simply those of tuberculosis. The article on syphilis is a careful and thorough one, but almost too greatly condensed considering the importance of the subject.

After a short chapter by Pepper on leprosy, in which the vexed and much-disputed question of the contagiousness of the disease is at last settled by the words, "the contagiousness of leprosy cannot be doubted;" Thompson contributes a very readable article upon diphtheria, which is entirely up to date, and in which the consideration of the etiology is particularly interesting. The same author follows with sections upon erysipelas, malaria, cholera and yellow fever. That upon malaria is accompanied by a colored plate, showing the different forms of the hematozoon.

Succeeding this come chapters by Whittaker, on tetanus, actinomycosis, anthrax, hydrophobia, trichinosis, glanders, and foot-and-mouth disease. All these are satisfactory except the last, which leaves us with the impression that this affection is considered identical with aphthous stomatitis —which common opinion hardly accepts—although the author does not commit himself. In the chapter on tetanus the treatment with the antitoxine is thoroughly discussed. Colored figures accompany the articles on anthrax and actinomycosis.

The diseases of the nervous system occupy the remainder of the book, their discussion being divided between Horatio C. Wood and Wm. Osler. The former opens with a short article on general symptomatology, and follows with others on mental diseases, functional nervous diseases, syphilis of the nervous system, and organic diseases of the spinal cord and its membranes. The chapter upon mental diseases occupies about sixty pages. It is written in the author's lucid style and is intensely interesting.

That upon functional nervous diseases is still longer, and covers a great deal of ground, including, among other things, neurasthenia, hysteria, epilepsy and chorea. Some of the subjects found here are rather too briefly treated, among them being tetany, hereditary chorea, caisson disease, and the occupation neuroses. The section on organic diseases of the spinal cord and its membranes contains a clear, concise discussion of the various affections naturally grouped here.

To Osler is allotted organic diseases of the brain, diseases of the nerves, diseases of the muscles and vaso-motor and trophic disorders. Few are better able than he to handle the difficult subject of diseases of the brain. We consequently receive from his pen a very instructive article on the subject—concise, of course, since the limits of the volume render it necessary. The same may be said of the section upon diseases of the nerves. Under vaso-motor and trophic disorders is a full-page colored plate of acromegaly, reproduced from Marie.

The volume is well printed on good paper and is nicely bound. It is sufficiently well illustrated, although not profusely so. We can heartily recommed it, both to students and practitioners.

DISEASES OF THE EYE—By George A. Berry, M. B., F. R. C. S. Edinburgh. Second Edition, revised and enlarged, octavo, 745 pages with 197 illustrations. Philadelphia, Lea Brothers & Co., 1893.

The most notable feature of Berry's book is its wealth of beautifully colored illustrations introduced throughout the book in immediate connection with the related text. The present edition contains a large number of these that are entirely new, making in all eighty-seven, the finest collection of such illustrations of the normal and pathological appearances of the eye to be found in any work published in the English language.

To the practitioner, who has not the advantage of a large special clinic in which to become familiar with the rarer forms of eye disease, such illustrations are invaluable.

The enlargement of the present edition amounts to some fifty pages, but the use of small type for the less important sections gives a considerably greater increase in matter. One of the most valuable changes, is that which devotes the first chapter to the examination of the eye.

The teaching of the work is clear and, we think mostly sound and up to date, although the author fails to appreciate the value of tenotomy for heterophoria; and seems to think that the principal advantage of simple extraction is cosmetic; in both of which points we think him in error.

THE

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THE VAGINAL BLUENESS OF PREGNANCY.[1]

BY HARRIS A. SLOCUM, M. D.,

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[1]Lecture delivered at the Philadelphia Polyclinic.

When a patient comes before the physician with a history of cessation of the menses for six or seven months, gradual enlargement of the mammary glands, constipation, drowsiness, frequent micturition and a train of other symptoms pointing in the same direction, and if, upon examination, there is found an enlarged abdomen, fœtal movements and the fœtal heart sounds, together with an intensely engorged vaginal and vulvar membrane, the latter is readily accepted as a corroborative symptom, in arriving at the diagnosis of pregnancy. In such a case, it is not necessary to make an ocular examination of the genitals—all the other symptoms are so marked and so indicative, that the diagnosis can be made without its assistance.

Instances are numerous, however, when its aid is needed, when discoloration is carefully sought for, and when it becomes a matter of importance for us to decide whether the color of the vagina which we bring to view upon separating the labia, is that of a non-pregnant woman, or whether it is such as indicates, with strong probability that conception has taken place.

In connection with the subject, three points present themselves for consideration:

1. The earliest period at which its presence can be ascertained.

2. Its reliability as an indicator of pregnancy.

3. How can it be distinguished from discolorations due to other causes?

In regard to the first point, it appears that text-books are not strictly accurate in their statements. In the "Cyclopedia of Obstetrics," Charpentier says: "Only in advanced pregnancy—three or four months—do any appreciable changes occur in the external genitals." Parvin, in his "Science and Art of Obstetrics," remarks: "It is not until about the fourth month of pregnancy that changes in the external genitals are noticeable."

From a careful examination of many cases, the conclusion seems justified that the blue, violet, or rather lilac-colored change in the appearance of the vaginal mucous membrane, begins to develop towards the end of the second month of pregnancy.

The essential generating organs in woman appear to be very prompt in recognizing a fecundated orum—to distinguish it from an unfertilized one and to hold and retain the former while permitting the latter to pass away. Interesting as it would be to further investigate this curious matter, it is our province, at present, only to mention the fact as an instance of the alert, responsive tendency of the uterus to this physiological stimulus, knowing which it will not seem so surprising that even at a very early period there should begin those developmental changes, which extending downward to the termination of the vagina indicate there the concomitant development of the uterus that is going on above. To be sure we have the same vast range of individual susceptibilities in this matter that we do in others, meeting occasionally with those who exhibit very little change, even as late as the fourth month, and, on the other hand, finding it appear as early as the fifth week. This is an unusually early period, and I cite the following case to show that it does occur:

M. B.; aged 19; menses always regular until January, when on the 2d, the date for their occurrence, they failed to appear. She came to my office on the 9th, seven days afterward, and my examination showed a "faint but determinable lilac tinge of the vaginal wall, slowly returning after pressure, and not at all extending to the internal labia; cervix a shade softer than normal; antero-posterior diameter of fundus not perceptibly enlarged—probably a very slight prominence of the posterior wall—adnexa normal."

I was convinced that she was pregnant. Since then she has developed morning nausea, great drowsiness through the day, frequent micturition and mammary symptoms, and an examination two days ago showed a marked change in the fundus, it having become decidedly cystic, and the antero-posterior diameter much increased. The lilac color was just the same.

You will notice that I cite this case as occurring not later than the fifth week, and that I am sure of, but how much *earlier* it may be I cannot tell. She was but seven days past her normal time, and impregnation might have occurred only a week before.

As I have already indicated, the vaginal blueness is more noticeable in some women than it is in others, and I have learned to expect its greatest development in the two extremes of dark Negro and blonde Caucasian. In the former it would be pronounced on account of the marked contrast of very dark epidermis surrounding the pink of the labia, throwing into strong relief the bluish tinge differing from both, while in the woman of fair complexion the cause is altogether different, and consists in the thinner, more translucent epithelium allowing us to see more plainly the dilated venules beneath. In women with thick skins, it is less noticeable, principally because, although the venules are equally dilated, their color is not so well transmitted through the overlying squamous epithelium, while in patients exhibiting strong tonicity of the vaginal walls and sphincter, it is also harder to detect, because the very

tonicity squeezes the blood from the vessels and prevents their ready dilatation.

Among the cases relating to the discoloration taken from my notes and bearing upon the date of its appearance, are the following:

H. H. A note made June 10, 1889, is to the effect that she missed her menses three months ago, and that the vaginal tissues are of a deep blue color, in point of fact, an *old* blue, for such a degree of discoloration could not develop short of three or four weeks.

Another patient, J. F., who was pregnant three months, presented a violet-colored vagina.

Again, E. W., examined Nov. 11, had her last menstrual period Sept. 7, two months and four days before the examination was made, and the note is, "vagina bluish."

Also, M. E., examined Feb. 12. The notes state, "internal labia enlarged—project beyond external labia. Vagina is blue, especially noticeable on anterior wall—is limited to vagina and hymen, and is most marked in the rugæ just under the mouth of the urethra. States that her last menses occurred December 8, and lasted seven days. No coitus for two weeks after, as her husband was away and did not return until two weeks after the flow ceased." This would bring the earliest period when she could conceive up to Dec. 29, six weeks and three days from the date of examination, which further showed "cervix small and narrow, notched bilaterally, and is moderately hard; mucous lining has a velvety feel; fundus forward, about a half-inch below pubic bone; antero-posterior diameter increased, cystic, evidently pregnant."

Frequent examinations of pregnant women shows us that it is a difficult matter to detect, from week to week, decided or marked changes in the depth of color until after the fifth month, when the increase takes place at a more rapid rate, and moreover, changes in character. From this fact, when a decided, characteristic blueness is disclosed at our first investigation, we are justified in believing that it has been

present for two weeks or more before coming under observation. A correct approximation can be made only after many cases have been examined, and the eye has become accustomed to the varying shades of color presented by the normal tissues.

The first point has been considered, and concerning it, it may be said that in some cases at least blueness of the vagina may be looked for as a diagnostic sign at the close of the second month of pregnancy, and may be confidently expected to be found at the end of the third.

The second and third points may be considered conjointly, as they both deal with the same phase of the subject. "Jacquemin and Kluga regard a purple or violet hue of the vagina as an almost certain sign of pregnancy, but its value is lessened by the fact that a similar change has been observed in menstruation" (Parvin's Science and Art of Obstetrics).

It is not mentioned whether it is in but one or in many cases in which this fact has been observed, but it is probably a rare occurrence, and, moreover, the history of a patient, presenting such a case for solution should naturally assist us in arriving at a correct conclusion. If her menses had heretofore appeared regularly, and its return was daily expected, the disclosure of a bluish vagina would not necessarily point to pregnancy, for we would not expect it until at least the end of the second month. It is so slightly developed, even then, that if found strongly marked one month before, its significance would be questionable. In such a case, all other symptoms would have to be carefully considered and particular care would be given to making a bi-manual examination of the uterus.

Considering the rarity of its occurrence in simple menstruation, it may be safely stated that when marked vaginal blueness is present, it is strong evidence in testimony of the existence of pregnancy. This conclusion, of course, will not be arrived at until all other possible causes for its presence have been eliminated. Ovarian, uterine, or other pelvic or

abdominal tumors rarely cause distal venous stasis and consequent discoloration until they have arrived at such a size as renders their presence easily demonstrable, and even then the character of the change differs markedly from the one under consideration. In the former case, a general redness and fulness of the vulva and perineum are noticed, with probably small varices of the labia and surrounding skin. This describes an unusual case.

The majority of abdominal and pelvic tumors, or other causes of pressure, as ascites, cause much less congestion of the vagina and external genitals than one would suppose.

I have examined in cases of impacted pelvic tumors—in one case in which a dermoid the size of two fists was impacted in the pelvis, jamming the uterus against the pubic bone, while another dermoid ascended to the under surface of the liver—and yet found the only feature to be a deep red hyperemia of the vulvar and lower vaginal membrane, with not a trace of blueness.

It is claimed that the vaginal blueness of pregnancy is due to pressure upon the iliac veins by the enlarged uterus.

This may be true during the latter months when, as before stated, the character of the discoloration changes, but in the beginning of pregnancy, it is undoubtedly due to the vaso-motor changes beginning in the uterus shortly after conception, and traveling down the vagina, is brought to rest there for a while, and finally extends to the tissues of the outlet, these periods being stages in the development of these organs to the purpose for which they exist.

A fact which supports this theory and at the same time constitutes a valuable factor in diagnosis is the existence of this blueness in cases of extra-uterine pregnancy.

H. B., an English woman, about 40 years of age, had several children, the last one some fourteen years ago. She had missed one period, and at the time for the second, a slight reddish discharge occurred which continued for several days, when it became brown and lasted several weeks. At about the tenth week I examined her and found

vagina markedly blue, pressure of finger causes decided yellowish white mark, slowly disappearing; cervix softer than normal; fundus forward and generally enlarged, although but slightly—the antero-posterior diameter not relatively increased. To the left of uterus, a tense, cystic mass, oblong across to the pelvis wall.

After making a careful examination and collecting all the facts in her history, I diagnosed an extra-uterine pregnancy which was verified by abdominal section. I was strongly influenced in my diagnosis by the vaginal discoloration. Having an empty, though slightly enlarged uterus, with lateral pains and a lateral swelling, nothing that I could think of, other than pregnancy, would account for the blueness.

This, I think, corroborates what was said as to the origin of this sign, for in this case, the ovum from some cause having been detained in the tube and becoming attached to it, the latter inaugurated the same chain of physiological phenomena in the direction of developmental growth. You can readily see how valuable an aid we here possess if our eyes are trained to distinguish it, yet it is probably but rarely used, judging from the general absence of any allusion to it in the report of examined cases.

From a number of notes I will select one in which is recorded a feature of this symptom which I believe to be characteristic of the blueness of pregnancy, distinguishing it from discolorations due to other causes.

"June 10; H. H., colored. Vagina blue. This blueness stops at the vaginal junction with the vulva, and, although the rugæ are of a deep blue color, if a finger is laid over them, excluding them from view, no indication of her condition is given by the appearance of the surrounding tissues. The labia minora are normal in color, the upper part being deeply pigmented, and the lower part shading into a pale pink, as found in a non-pregnant woman."

This examination was made June 10. She was confined

Dec. 7, of a female child, so that at the third month the change in color, although so marked in the vaginal tissues, had not yet crossed the boundary line to the vulva.

She was thus fully three months advanced in pregnancy, the vagina was of a markedly blue color, but this color stopped as abruptly as does that at the circumference of the iris. The inner surfaces of the labia minora, the fourchette, the vestibule, were all pink—not a sign of discoloration. And this it is which seems to mark the vaginal blueness of pregnancy, under ordinary circumstances, from discolorations due to other causes.

If it be very slight in hue, so slight as to leave one in some doubt as to its presence, another little test may be used. Press upon the tissues, quickly remove the finger, and note the return of blood to the part. Ordinarily, the white spot caused by the pressure of the finger is immediately effaced by the returning current.

In all the cases of pregnancy where I have used this corroborative aid, the white spot remains much longer than ordinarily, the blood flows back sluggishly, and my experience has taught me to be guarded in giving an opinion when this sluggishness is noticed, together with the faintest darkening of color, even though careful bi-manual examination of the uterus yields a negative result, but when I find these two symptoms, and can positively determine an increased antero-posterior diameter of the fundus uteri, my suspicions of pregnancy are greatly strengthened, even though the end of the second month has barely arrived.

In very stout women it is generally difficult to detect this change of color, principally because they almost always have congested genitals—even in young women, and more marked when thirty-five or over, and in multipara. My experience long ago led me to particularly examine the groove in the anterior wall of the vagina, running from side to side just under the pubic bone. Almost a half inch back from the hymen, the portion under the triangular ligament of urethra, is a spot where the discoloration would be found

most marked. This fact has been corroborated by a recent writer in *The American Journal of Obstetrics* who lays particular stress upon its existence and significance, and, I think, rightly.

In Conclusion; it must be borne in mind that a multitude of conditions may arise to modify and distort the aspects of a case, and an undeviating rule cannot be used here any more successfully than it can in the other departments of medicine, but, broadly speaking, my own experience has taught me to rely with some confidence upon the blueness of the vagina as a symptom of pregnancy; to expect some indications of its presence as early as the end of the second month, and to believe that it has at least one peculiarity by which it may be distinguished from discolorations due to other causes, namely, the abrupt termination of the color line, in the early months, at the terminus of the vagina.

At a later period when the changes have reached out into the labia and surrounding tissues, we are not so much in need of its assistance as, in uncomplicated cases, a bi-manual examination of the pelvis generally tells us all we want to know.

MASSAGE IN THE TREATMENT OF SPRAINS AND OTHER INJURIES ABOUT JOINTS.[1]

By Benjamin Lee, M. D.,

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Gentlemen:—Preventive medicine has, of recent years, been assuming a degree of importance as compared with remedial medicine which is truly remarkable. The trite proverb that "an ounce of prevention is worth a pound of cure," has been made the foundation of a new science and art. The application of this science to orthopedics may not seem to be easy of demonstration; and yet I think I can show you that the attempt is not as far-fetched as it may appear at first sight.

[1] A lecture delivered before the class of the Philadelphia Polyclinic and College for Graduates in Medicine.

Nelaton in France, and Gross in America, grand representative surgeons of two continents, unite in the statement that a large majority of cases requiring amputation result from sprains. It may with equal truth be said that a large proportion of the acquired distortions of the extremities which call for the exercise of the orthopedic art have a similar origin.

I desire to call your attention to a mode of treating injuries of this general nature which is often successful in preventing the disability and deformity which we so frequently meet with after the employment of the methods which have, for a long period, been in vogue.

A sprain is the pathological condition of the tissues in and about a joint, resulting from the sudden and violent separation of the articulating surfaces of one side of the joint; the articular surfaces of the opposite side forming a fulcrum by means of which the distracting force acts. On the side of separation the ligaments, tendons, muscles and fasciæ, which are concerned in maintaining the articular surfaces in close opposition, are necessarily put on the stretch, their fibrils, if not their fibres, being often torn across and their insertions into the periosteum loosened. On the opposite side, the articulating cartilages and synovial membrane are contused. The injury therefore is partly intra-articular and partly extra-articular.

From such an injury we may expect to have result, within the joint, synovitis, arthrochondritis and extravasation of serum, if not of blood, and, outside the joint, inflammation of the periosteum, of the sheaths of the tendons and muscles, of the ligaments and fasciæ, and possibly of some of the blood-vessels, accompanying the stretching or laceration of these parts. With this condition there will, of course, be an abundant effusion of serum, producing swelling and a rupture of superficial capillaries causing discoloration.

An understanding of the fact that all the fibrous and cartilaginous tissues, although destitute of vascularity under ordinary conditions, are capable of taking on inflammatory

processes, is essential to a conception of the appropriate treatment. To Dr. Paul Grawitz, of Germany, and Dr. E. O. Shakespeare, of Philadelphia, do we owe the knowledge of the fact that all such aggregations of condensed areolar tissue contain dormant cells which, aroused to activity by injury, establish a partly destructive and partly reconstructive process in all respects similar to the inflammatory process in vascular tissues.

To the conditions already described we must add a retardation of the currents both of lymph and of blood, owing to the actual destruction of certain vessels, and to the diminution of the calibre of others in consequence of the pressure upon their outer walls by effused material. Pain of greater or less severity, often extreme, and greatly increased by attempting to use the joint, is, of course, present.

The indications for treatment are, first, the relief of pain; second, restoration of the lymphatic, arterial and venous capillaries to their normal condition; and, third, absorption and removal of the effused material.

If the case is seen immediately after the accident, the first indication is best met by placing the joint, if so situated as to make this possible, in water as hot as can be borne, and at once beginning with massage.

And here a word as to the proper pronunciation and use of this term, since it is as well to be correct as incorrect in this particular, even though it make no difference in the progress of the case. The last syllable is pronounced like the first syllable of the word "azure," the "a" being long as in "ah." The accent should be on the last syllable. It is therefore not "massidge" nor "massaidge" nor "massodge," but "massazhe." It is, however, not proper, even if you pronounce the word correctly, to speak of "massaging" a patient. The verb is "masser," pronounced "massay." The patient is said to be "masséd," pronounced "massayed." The operator is a "masseur" if a man, and a "masseuse" if a woman. The word "masser" means to "knead," as a

baker works and squeezes his dough.

There are four principal methods or procedures in massage, to which all others may be referred. It is not worth while to burden your memories with the French names for these as given in the books. They are "kneading," "stroking," "friction" and "percussion."

KNEADING consists in taking the tissues between the two hands, or between the thumb and fingers of one hand, according to the size of the part grasped, and subjecting them to a succession of somewhat rapid pressures. Alternate pressure and relaxation is the key to its successful performance. Very often the limb is so grasped with both hands that while pressure is made on two opposite aspects, relaxation takes place on the other two surfaces. Its object is to act on the deep-seated tissues, especially on the bodies of the muscles. This is the most important of all the manipulations.

FRICTION is not to be confounded with simple rubbing. The latter is more like the "stroking" of scientific massage. It is performed over comparatively small areas of surface, as, for instance, one side of a joint, with the thumb or the ends of the fingers, which are made to describe an arc of a circle, quite firm pressure being made. The fingers move over the surface of the skin, and, if the latter is thin and sensitive, it may be well to use a lubricant, such as cocoa-butter, lard or vaseline. In this particular, friction differs essentially from kneading, in which our aim is not to allow such motion, but to cause the skin to move with the fingers over the subjacent tissues.

STROKING, on the contrary, is performed over large surfaces, and, if possible, with the full hand. If the area is too limited for this, it may be done with the palmar surface of the fingers. The pressure varies, but is never as great as in kneading or friction. The movements are made with much greater rapidity than in the two preceding methods.

PERCUSSION consists in delivering rapid, repeated blows upon the surface, and may be done with the finger tips, as

in percussing the chest for the purpose of diagnosis, with the palm of the hand, with its ulnar border or with the sides of the finger tips held loosely. These modifications are called clapping, chopping, whipping or flagellation and so on.

The explanation of the benefits of massage is to be found in the cellular theory. Cell growth, as we know, is the foundation stone on which the development of all tissues rests. This growth depends upon the capacity of each cell to absorb fluid into its cavity through its walls, and to force it out again, having, in the meantime, obtained from it substances necessary to its nutrition and delivered to it materials which it has used up and has no farther use for. So long as every cell maintains this process, to which the name of *endosmose* and *exosmose* has been given, we have the condition known as health. Whenever any considerable number of cells in any part or organ ceases to do so under the influence of some poisonous agent, or as the result of injury, we have the condition known as disease, a pathological condition. Now the value of massage consists in this, that it is a means of mechanically aiding the cells in the performance of this essential function. It is therefore not simply an empirical mode of treatment, but is founded upon strictly scientific induction.

The manipulations which we principally use in injuries in the neighborhood of joints are friction and stroking, with a certain amount of kneading. Bear in mind that the object of this friction is to break up adhesions and dissipate exudations. Adhesions begin to form very early about injured joints. Search carefully for isolated indurations and nodules and give them especial attention, not resting satisfied until you have obtained their complete removal. The combined friction and stroking, performed with the two hands, of which I have before spoken, is a most useful procedure for this purpose.

The treatment is properly begun at a distance from the joint, and on the proximal side—that nearest the body—

and this for two reasons: First, in order to prepare the absorbents and lymphatics to receive the exudates which we are about to remove from the injured parts, and, secondly, to gradually accustom the sensitive tissues to pressure. It is possible that at the first sitting it will not be practicable to treat the injured part directly at all. It may be necessary at first to confine our efforts entirely to what the Germans call preliminary massage, which will prepare the way for the direct treatment.

If, for instance, we are treating a sprained ankle, we begin above the knee, and, encircling as much of the thigh as possible, with the full hands, stroke upward to the pelvis. Then we start at the middle of the thigh and knead the muscles, working slowly upward to the pelvis. Next we subject the lower half of the thigh to the same process, still working from below up. This is again followed by upward stroking, considerably firmer pressure being made than at the first time. The result of this will be that the muscular capillaries and the absorbents of this large amount of highly vascular tissue will have been stimulated to increased activity, and its capacity for receiving blood augmented. Coincident with this we may be already able to observe that the tissues about the ankle are becoming less tense and swollen.

The point is then found nearest to the seat of injury at which pressure can be borne without serious pain. Stroking is started from this point and carried up to the knee. The upper third of the leg, including the belly of the gastrocnemius is then kneaded and the stroking repeated somewhat more vigorously. It may be wise to stop at this point for the day. A flannel or pure rubber bandage should then be very carefully applied and the patient instructed to keep the foot elevated. It may be, however, that the sensitiveness will already have been so much diminished that the patient will bear gentle friction, with the thumb or the fingers about the periphery of the inflamed area. If so, this may be practiced with one hand while the other performs

upward stroking from the same locality.

Fifteen minutes is sufficiently long for each séance, and it is often well to give two each day. By thus carefully observing and taking advantage of the diminishing area of sensitiveness, we shall soon find that pressure can be tolerated over the entire injured region. The routine will be the same each day.

About the third or fourth day movements of the foot may be begun. At first, entirely passive, later on, acto-passive, the patient making the motion while the operator resists. The movements will consist of flexion, extension and rotation. These will, of course, produce pain at first, but the patient must be encouraged to endure this as much as possible by holding out the hope of speedier recovery.

Douching with hot and cold water alternately is a valuable adjunct in restoring tone to the relaxed vessels.

It is not too much to say that the mode of treatment above detailed diminishes the time required as compared with that of fixation, in the ratio of days to weeks, and that the ankyloses and contractions so often following the latter are almost entirely avoided.

The statistics of the Prussian Army, on the surgeons of which a practical acquaintance with massage is obligatory, are convincing on this point.

If the sprain is a severe one, it will be well to put the patient on crutches for a few days, but he should be encouraged to begin to bear a portion of his weight on the joint as early as possible. A firm, elastic bandage, evenly applied, and, later on, a woven elastic anklet, will aid materially in preventing swelling and congestion.

EPIPHORA OF INTRA-NASAL ORIGIN.

By Walter J. Freeman, M. D.,

INSTRUCTOR IN LARYNGOLOGY IN THE PHILADELPHIA POLYCLINIC, LARYNGOLOGIST TO THE CHILDREN'S HOSPITAL.

In reporting the following cases, the writer wishes to draw

attention to certain truths which seem to be too often neglected in the study of epiphora, and to emphasize their importance, not to advance any new suggestions either in its diagnosis or treatment.

Not only do many oculists err in giving little weight to the part played by intra-nasal inflammations in generating conjunctival and other ocular troubles, but rhinologists are often equally lax in their attention to the condition of their patients' eyes, considering them as entirely outside of their domain. The nasal duct may be looked upon as a bond of union existing between two specialties, and in the writer's opinion the patient will be the better for having both consider his case, when epiphora is present.

What proportion of cases of lachrymation may be considered due to intra-nasal trouble it would be impossible to state, but, from the prevalence of nasal catarrh and the influence it can readily be seen to have upon the mucous membranes of the eyes, we must put it down as very large.

Until within the last few years, in all cases in which the epiphora was troublesome enough to demand active interference, the only expedient seemed to be to slit the canaliculus and probe the duct, and finally to pronounce a large proportion of the cases "most obstinate." Now the great effort must be to prevent the pendulum, always so difficult to control, from swinging too far in the opposite direction, resulting in the mutilation of non-offending turbinals and septal spurs in cases of stenosed puncta lachrymalia or strictured ducts.

So the cases must be thoroughly studied by both specialists, each carefully avoiding what Dr. Thomas has aptly called "looking at them only from his own end of the tube." Rather let the tube be a speaking tube, through which each may learn something from the other.

That rhinitis is an agency in establishing conjunctival inflammations is unquestionable. Almost daily do we see cases of coryza with eyes suffused and conjunctiva reddened, the tears often flowing over the cheeks, due to the mere

temporary congestion of the erectile tissues of the nares. Now let this congestion be continued, resulting in various degrees of hypertrophic rhinitis, or let the catarrhal process extend by continuity, often causing stricture of the nasal duct, and we have the stagnation of tears in the lachrymal sac, which is authoritatively stated by Meyer to be a prolific cause of blenorrhœa, marginal blepharitis, phlyctenular and other forms of conjunctivitis. Too often are these looked upon as being direct causes of the existing lachrymation, when by a deeper search they could be traced back to some definite nasal trouble.

In enumerating the various forms of intra-nasal conditions which may act as impediments to the free passage of tears, I shall refer mostly to examples which I have met with in private practice; for clinical cases are proverbially difficult to follow, and the ultimate results are seldom obtainable.

Case I. *Obstinate Epiphora. Hypertrophy of inferior turbinal.*—Miss. M., aet. 37. Referred by Dr. Geo. E. de Schweinitz on account of obstinate epiphora. No operation had been done on the lachrymal apparatus. She had had lachrymation of the left eye seven years. A nasal examination showed a very large hypertrophy of the left inferior turbinal, against which was pressing a marked ridge of an angularly deviated septum. Two cauterizations of the turbinated body with chromic acid reduced the hypertrophy without necessitating removal of the septal ridge. Four months from time of beginning treatment she was discharged cured, and one year later wrote she had no difficulty with tears standing in the eyes, even in cold weather, and that there was no nasal trouble.

Case II. *Epiphora of both eyes, due to vaso-motor paretic condition of both inferior turbinals. Marginal blepharitis. Chronic conjunctivitis.*—Mr. A., aet., 26. Referred by Dr. Geo. E. de Schweinitz. In this case there were present marked swellings of the anterior ends of both inferior tur-

binals. These were tacked down by deep but not extensive applications of the galvano-cautery. The improvement was quickly apparent, and at the end of five months he reported no trouble whatever with tears standing in his eyes, the nose perfectly clear, and eyes decidedly better.

The following case, like number II showed a vaso-motor paretic condition, and, although no treatment was instituted, it is here introduced because it shows so characteristically the reason for the periodicity of the lachrymal attacks.

Case III. Miss L. was referred to me by an oculist who had slit the canaliculus seven months before, and had passed the probe weekly since that time. There had been epiphora of the right eye for four or five years, but she denied having any nasal trouble. Coming in out of the frosty air, tears were flowing over her right cheek, and the rhinoscopic examination which was immediately made showed the right inferior turbinal swollen till it touched the septum, floor, and outer wall, thus effectually damming the tears. During the examination the turbinal contracted, and the tears flowed unhindered into the nose. Unfortunately the patient merely came for an opinion; and although the oculist advised nasal treatment, and although she is still unrelieved, she hesitates because "the nose does not trouble her."

Case IV. *Epiphora of right eye with co-existing myxomatous degeneration of the anterior end of the right inferior turbinal.*—Mrs. M., aet. 33. Had had lachrymation of the right eye for over a year. An examination showed a mass of myxomatous tissue occupying the anterior extremity of the right inferior turbinated body, touching the floor, septum, and outer walls, thus effectually obstructing the lower end of the lachrymal canal. It was extremely difficult to eradicate the growth, as it recurred even after repeated removals by snare and cautery. The removal was, however, finally accomplished, and the tears flowed naturally, so that after four months there is no complaint of lachrymation. The naris becomes stenosed when she catches cold, but there is no return of the epiphora. This goes to show that swelling

of the inferior turbinals does not necessarily cause lachrymation, though it often does so if the swelling happens to be in an outward direction, and so impinges against the opening of the nasal duct.

Case V. *Epiphora of left eye due to deviated septum.*—Mr. J., aet. 57, was referred to me by Dr. F. H. Milliken for operation. His nose was markedly bent toward the right, the result of fracture in childhood. From that time the left naris had been obstructed. The left eye "watered" continuously, and the tears ran over the cheek, causing painful excoriations under the eye. Examination of the nose showed a deviation of the cartilage of the septum toward the left, almost occluding the naris, and pressing so hard against the inferior turbinated bone that this in turn was flattened against the outer wall. Roberts' method was followed in straightening the septum and five weeks later the patient was discharged cured. The septum was straight, both nares were free, and the left inferior turbinal, relieved of the pressure, had sprung more into its normal position—so much so, indeed, that I could now see space between it and the outer wall. Within two days after the operation the epiphora ceased, and up to the present time of writing, four months, has not recurred.

Case VI. *Epiphora due to synechia between inferior turbinal and floor of nasal fossa.*—Mr. J., aet. 30. This patient was referred to me in the Throat Department of the Polyclinic where I treated him and observed the results at intervals during two years. The patient had had to keep "sopping" the left eye, especially when out in the wind. The canaliculus had been laid open, and a stricture at the lower end of the duct located to a nicety, but it had offered impenetrable resistance to the passage of probes. Rhinoscopic examination showed the anterior extremity of the inferior turbinal bound down to the floor by a mass of dense cicatricial tissue, the turbinated body being otherwise normal. As much as possible of the synechia was removed with biting forceps. Within a few weeks marked improvement

followed, without any treatment directed to the eye, and at present, a year later, he reports very little difficulty with the tears standing in his eyes even while reading or when out in the cold wind.

These cases show the ease and certainty with which certain forms of epiphora are permanently relieved by intra-nasal treatment. But a note of warning must be sounded, lest the single symptom of lachrymation be regarded as a signal for instituting nasal treatment without duly weighing the coexisting ocular troubles. Much also may be accomplished in the prevention of permanent changes in the lachrymal apparatus by the early recognition and treatment of epiphora due to inflammations of the nasal mucous membrane. But let the rhinologist always remember that the presence of pus in the lachrymal sac indicates almost unerringly the presence of stricture, and that although he can do much to *aid* the ophthalmologist, by securing a more normal intra-nasal condition, the case is in other respects entirely beyond his province.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Malignant Syphilis.—Dr. A. E. Roussel, reported a case of a man aged forty years; of good history until the appearance of a chancre twenty-two days after exposure, which soon took upon itself a phagedenic character, and was followed by induration of the inguinal glands.

Nine days after, he first noticed the initial lesion, he was suddenly confined to his bed with all the symptoms of an acute attack of rheumatic fever. Later there was a suspicious eruption on the body and the internal anterior surface of the right tibia in its upper third revealed a small tumor, intimately connected with the bone, which the patient claimed to have noticed for about ten days. There was fever, unaccompanied by chill but by an intense cephalgia, which continued for a period of three or four hours each

evening, after which a profuse perspiration took place. Under the mixed treatment, the case rapidly improved.

Ten weeks after the appearance of the chancre, there was pain referred to the roof of the mouth during the act of eating. An examination of the part showed a considerable amount of brawny swelling, together with a deep, irregular, yellowish ulcer near the median line. This spread and invaded the deeper structures. Necrosis of the hard palate, as well as of the alveolar processes of the superior maxillary bone and of the nasal bones occurred.

Shortly after the beginning of the necrosis the patient commenced to rapidly lose in weight and strength, and a marked cachexia became an important feature of the case.

A pustular eruption of the face and scalp, bone pains, syphilitic boulimia, gastric crises, marked anemia, and oesophageal obstruction occurred. Excruciating localized pains in the lumbar region began with loss of control of the sphincter of the bowel and remained until death, a little over one year after the beginning of the disease. General tonic treatment, was of little apparent use.

The literature of this subject shows a rather growing tendency among the more recent syphilographers to appreciate that our accepted laws regarding the three fixed and precise stages of the diseases must be amendable to some modification; and many cases more or less similar are recorded.

Electro-Therapeutic Work.—Dr. G. Betton Massey called attention to the need of private hospitals devoted to this work. Such establishments, for the reenforcement and enlargement of our power to actually cure diseased organs not only lead to greater success in such high work, but lessen also our need to resort to the crude methods of amputation and removal of parts of the human body yet capable of restoration to health. Such considerations determined the establishment of a private hospital for the development of electro-therapeutics.

A variety of cases have been under treatment, in the

majority of which electricity had formed the principal therapeutic agent, though a not inconsiderable number have received electrical applications as a secondary part of the treatment; rest, massage, regulated exercise, and internal medication being associated with them.

Twenty cases of the myofibromata of the uterus were admitted, presenting many variations of the affection. Of the twenty cases, fifteen were of the ordinary solid varieties, to which the Apostoli method is now generally regarded as applicable. Of fifteen cases of solid interstitial and sub-peritoneal fibroid tumors of the uterus: No further growth occurred in any, and a complete symptomatic cure was obtained in each. Two were also cured anatomically, the growths disappearing entirely in each; ten were were greatly reduced in size; two slightly reduced in size, but being still under treatment; and one was not affected as to size. In one case of intra-uterine cystic growth, forming a tumor as large as an adult hand, death occurred from septicemia. In seven cases, the diagnosis was corroborated by the therapeutic evidence of relief of symptoms. Each of these cases of cured metritis with a single exception, and one case not relieved, showed a general impairment of the health, amounting in some cases to pronounced nervous prostration.

This class of cases is a continual reminder of the need of the practical association of a gynecological and neurological training in the worker in the diseases of women. The physical and the nervous woman are conjoined by Nature in both health and disease, and no mere nosological classification will separate what Nature has thus joined together.

In the allied affections of neurasthenia, hysteria, and nervous prostration, experience has dictated also that the faradic current usually employed in these cases as a general muscular and sensory stimulant is best replaced by the galvanic current applied with a large flexible pad as active electrode, well soaped to render its labile action agreeable.

Diphtheria treated by Tartaric Acid and Corrosive Sublimate.—Dr. M. Graham Tull reported his experience with this treatment. Of forty cases treated in general practice, he lost none treated by this method, although three children who had contracted the disease from his patients died of it.

During the autumn and winter of 1892, an instructive series of thirty-three cases came under his observation at an Orphanage.

Late in the preceding winter two cases of diphtheria, in half grown children, appeared in a farm house directly opposite and distant about one hundred yards from the Orphanage. The disease presented a very malignant aspect, and, notwithstanding the faithful care of a competent brother practitioner, both children died after an illness of a week or ten days. A number of other cases appeared in the village at this time, one of which he knew resulted fatally.

In August, one of the boys at the Orphanage, a lad of sixteen years of age, who had been assisting the gardener to spread manure that had been obtained from the farm where the children had died the preceding winter, was suddenly taken ill with fever, vomiting and slight sore throat. He transferred to the Municipal Hospital. But in the next few days, nine of the boys from the same cottage developed well-marked cases of diphtheria. They were at once isolated in a separate building, which had been converted into a temporary infirmary. The nurse was instructed to apply every three hours, by means of a cotton swab, a solution of mercuric chloride 3.85, tartaric acid 19.25, in a gill of water.

The results were immediate and remarkable, the temperature falling, the pulse becoming normal, and the aspect of the child undergoing an astonishing change. The course of the membrane across the fauces was checked, and in each case it came away in about forty-eight hours. All of these children were practically well in two days, while the first

case, which was transferred to the Municipal Hospital, was quite seriously ill for some time, and was not discharged for over six weeks.

A feeling of skepticism now developed in the minds of the attendants, so that the hitherto strict quarantine was completely relaxed, and five of the children in the so-called children's cottage were taken ill. The matron of that cottage had concluded the doctor was mistaken in thinking that the children who were sick had diphtheria, and that she would not allow her little ones to be taken to the infirmary. She, therefore, had them taken to the third story of her building, and allowed the well to stay with and amuse the sick. The first child was taken sick on Friday, and Tuesday afternoon five were found to have had diphtheria for some days, their sickness having been carefully concealed. They were at once removed to proper quarters, but the disease had acquired such a headway that in four or five days, three of the five died.

After this fresh outbreak there were eighteen other cases, two of whom died. One a child two years old with a very bad family history, all of his family connections being dead, and the other a child four years old, also with a bad family history, who at the height of the diphtheria developed a very violent attack of measles and succumbed to the combined force of the two diseases.

Dr. Tull's experience had taught him that a good method was to make the applications every three hours, and simply to press the cotton against the membrane, thus soaking it. The second or third day the membrane becomes readily detachable, and usually comes away on withdrawing the cotton. Formerly, he thought it necessary to rub and tear the membrane loose, but had never seen any benefit from this, while it was very annoying to the patient. As the patient begins to convalesce, the applications are made six and finally 12 hours apart.

Mastoid Disease–Bezold's Variety.—Dr. Wm. J. Taylor reported a case of a man, aged 25, who had suffered from

running in the right ear seven years before. The present attack began with pain in that ear and headache, and, after two weeks, an incison had been made over the mastoid region which had shown no perforation or necrosis. He then came under observation with pronounced sepsis with temperature of 100°, pulse weak, but rapid; mental condition dull, vitality much depressed. There was paralysis of right fascia nerve, swelling extending from the mastoid to the upper border of the clavicle. The skin was red and congested. Pus was coming from the incision, which was enlarged and the bone found to be hard and white, but pus was seen coming from below. The incision was extended downward into the neck where it liberated a large quantity of pus and the whole of the medial surface of the mastoid was found softened and broken down. Pus had burrowed into the digastric fossa and down the great vessels of the neck. All necrosed bone was removed and the wound thoroughly cleansed. The improvement was immediate. Temperature reached normal, on the seventh day. Facial paralysis partly persisted.

Mastoid Operations.—Dr. B. A. Randall, read a paper based on fifty such operations done in the last four years.

The great advance in intra-cranial surgery has shown that conditions once regarded as hopeless can be successfully combated by modern methods. The timid cutting down upon the mastoid and resting satisfied with that, is growing less frequent, since the conservatives are forced to admit that they have then to wait for months or years for Nature to loosen or throw off dead tissue, of which most, if not all, might be removed with safety in a few minutes. And wider clinical and anatomical study is showing the way more clearly to radical but truly conservative measures.

The relative safety of timely operation has been proven by the fact that death is growing steadily less frequent in operated cases, and falls far below the proportion of fatalities where operation is indicated, yet refused. At the same

time we are improving the definition of the larger group of cases where vigorous antiphlogistic treatment, by hot douching, dry heat, and rest in bed, will safely avoid the dangers of mastoid inflammation and obviate the resort to operative intervention. The wider spread of rational treatment of tympanic suppurations will doubtless do as much to lessen the frequency of serious intra-cranial extensions; as the better and more hopeful diagnosis of their occurrence and accessibility during life will bring them into notice as demanding intervention and yielding to surgical skill.

The notable results obtained of late years by general surgeons has called more widespread attention to this field and awakened more general interest; but it should not be forgotten that it has been quite frequently the aurist who has diagnosticated the case, indicated the operation, and only sometimes called in the general surgeon to perform it. And while the aurist has rarely reported his results in these fields in general meetings and journals, it has not been because he has not obtained the same brilliant success, though oftener without than with a perilous and somewhat questionable operation.

Doubtless the past four years of epidemic influenza have greatly influenced the matter of mastoid inflammation and enforced more frequent resort to operative intervention, for the notices of such cases have redoubled during this period. Dr. Randall's operations, previously infrequent, rose to seven in 1889, ten in 1890, fifteen in 1891, and twenty in 1892. Of the cases where the suggestions of mastoid trouble, as furnished by pain, redness, œdema, apparent fluctuation, and deep-seated tenderness to pressure, have been decidedly disquieting. He believed that quite three-fourths of such cases could be brought safely through without resort to operation; and that unless the symptoms are urgent, or the fluctuation unmistakable, the surgeon can give a fair trial to vigorous use of heat by douche and hot-water bottles, with rest in bed and good hygiene. But a number of patients were brought after all hope of resolu-

tion was gone; and when pus is present in or on the mastoid, he could imagine little cause for delay in evacuating it. The fatal results of the disease may not always be avoided; slow, tedious healing may be the best that can safely be secured, and facial palsy or impairment of hearing may prove irremediable, or may even occur after operation. Prognosis must be cautious, and one should never promise his patient anything more than that he will give him his best judgment and skill; yet, none the less, in careful hands the opening of the mastoid will continue to give, as it has done in thousands of cases in the past, the fullest justification for its performance.

The technique of operating should vary with the nature and needs of the case. Usually a liberal incision close behind the auricle, free exposure of the bone and penetration by the gouge close behind the auditory canal *below* the level of its upper margin and the *spina supra meatum* is safest and surest to reach the antrum. The claim of Koerner, that the cranial measurements give an assurance of safety or danger, are wholly unsubstantiated by Dr. Randall's far wider study.

Cases are met where the lateral sinus, covered by the merest film of bone, fully occupies the ordinary field of operation, and it may even be visible through the intact bone; therefore, close scrutiny of the uncovered mastoid is a prerequisite to any penetration. The trephine or drill is being less used by all men who operate often, since study and experience show that in the dangerous cases their use is less safe than the gouge. The hand-gouge is safer, though slower, and can be carried through the hardest bone.

Irrigation is a questionable measure, both in the operation and after-treatment, and is better avoided. Drain-tubes, gauze packings, and open treatment of the wound are unfortunate necessities in most cases, but should be avoided, if safely possible, the free incision being narrowed or closed by sutures. Healing is possible by first intention in a few

days; but several weeks of after-treatment are usually requisite; and if thoroughness has not been practiced because of real or groundless fear of doing too much, or the patient's recuperation is poor, months may pass before full healing can be gained.

Dr. S. MacCuen Smith called attention to those cases in which pain was the only symptom of mastoid disease and narrated a case, in which this had existed for several months and was cured by opening the mastoid and evacuating the pus, which was found to be present.

Dr. Ernest Laplace had operated on five cases using the surgical engine and did not see how an instrument could be guided better than the surgical engine and burr, which acts simply as it is pressed.

Dr. Randall rarely used Wilde's incision, because he found the opening of the mastoid necessary, either at the time or soon after. The surgical engine was used by Dr. J. Orne Green, who had probably, the largest experience in the world in opening the mastoid, he having abandoned the mallet, which he formerly used. The engine has the disadvantage of being unwieldy. The gouge can be readily carried in the ordinary case and, therefore, is always available. As to results, he knew of but two deaths in the fifty cases, and in one, the disease recurred.

Current Literature.

Therapeutic Value of the Bicycle.—Dr. J. H. Kellogg (*Modern Medicine and Bacteriological World*) speaks of his personal experience. Under the pressure of literary work he found it necessary, in order to maintain the highest degree of mental activity, to devote daily some attention to active exercise out of doors. Finding that walking left him more fatigued, he spent one hour daily in bicyle riding, which not only refreshed him from the labors of a long day of incessant and intense mental effort, but prepared him for renewing his work in the evening.

More recently his experience afforded an excellent illustration of the value of the bicycle as a means of recuperation. A severe attack of *la grippe* confined him to his bed for a month and left him in a miserable state. The chief center of disease was the right lung which remained sore. His breath was so short and the recurrence of an evening rise of temperature so frequent that he had grave apprehensions of beginning tuberculosis. His heart was also exceedingly weak. At this time he began renewing acquaintance with the wheel.

His first trip on the bicycle, a distance of less than forty rods, left him with lungs and heart so excited that he was obliged to remain in a horizontal position for several hours. At the end of two weeks he was able to ride half a mile without becoming completely exhausted. At the end of a month he had fairly good "wind," and was able to ride ten miles in an hour over a road only fairly good, climb hills of considerable steepness, and had increased his lung capacity from 175 cubic inches to 210. He felt that the bicycle had saved his life. Certainly it did save him from a complete breakdown, which, at that time, would have been most disastrous.

The majority of chronic invalids need more muscular activity than they have been accustomed to. Exercise involves increase of lung activity, and with increased vigor of respiratory movements come better liver actions, improved digestion, accelerated absorption of the digestive products, better bowel action, purified blood, and more normal activity of brain and nerves.

The majority of those who take exercise for health do not take exercise enough to accomplish the purpose. To accomplish its object, exercise must be sufficiently vigorous and sufficiently prolonged to induce a decided impression upon the system—old tissues being broken down and the process of nutrition, assimilation and disassimilation sufficiently stimulated to oxidize and carry off old waste elements and build up newer and better tissue.

For neurasthenia, nervous dyspepsia, rheumatism, general debility, hypochondria, brain fatigue, diabetes and other difficult, common and obstinate maladies, the bicycle affords in connection with simple diet and correct habits of life, one of the best means of cure. For the last named disease, in curable cases, it is worth more than all other measures combined.

Book Notices.

PSYCHOPATHIA SEXUALIS, WITH ESPECIAL REFERENCE TO CONTRARY SEXUAL INSTINCT; A Medico-Legal Study. By Dr. R. von Krafft Ebbing, Professor of Psychiatry and Neurology, University of Vienna. Translated by Charles Gilbert Chaddock, M. D., Professor of Nervous and Mental Diseases, Marion Sims College of Medicine, St. Louis, Mo., etc. F. A. Davis Co., Philadelphia, Pa., 1893.

The distinguished name of the author of this extraordinary book is a guarantee of its scientific purpose and value. Doubtless it will be much approved, and more condemned, according to the point of view or personal feelings, of those by whom it is read. That it will be read goes without saying, as, from a variety of motives, books dealing with the master passion of the human race will always have their readers. The facts of disease, whether mental or physical, and however degrading and hideous, should be known to the medical profession, so that it may be better able to meet and deal with every problem. A vast amount of information, much of it of a revolting character, but dealing with the clinical, pathological and medico-legal aspects of sexuality, has been crowded into this well written, well translated, and well printed volume.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By JOHN V. SHOEMAKER, A. M., M. D. Second Edition. Revised. In Two Volumes. Volume I, 453 pages: Devoted to Pharmacy, General Pharmacology and Therapeutics and Remedial Agents not Properly Classed with Drugs. Volume II, 680 pages: An Independent Volume upon Drugs. Philadelphia: The F. A. Davis Co., 1893.

Every work that passes to a second edition has thereby

vindicated its right to a first edition. The work before us is clear, concise and, in general, accurate. The first volume dealing with remedial agents other than drugs, is a notable departure from routine, and, while quite unequal in many of its sections, is, on the whole, reliable and useful. The section on pneumotherapy, and especially that portion upon pneumatic differentiation, is the least complete, as if the author lacked personal familiarity with the methods described; the prominence given to the cabinet method as against the gasometer method being much to be regretted, while the pneumatic chambers modelled after Tabarie's are neither described nor intelligibly alluded to. In the second volume, drugs are given in alphabetical order, many non-official remedies being included, and all are fully and usefully treated.

We have not discovered many serious errors or omissions. There are a few, however. Thus atropine is not mentioned as a physiological antidote to carbolic acid; potassium permanganate and hydrogen dioxide are omitted from the list of antidotes to phosphorus. We do not like the alphabetic arrangement for text-books. It not only precludes exposition of general principles but is likely to lead to error through arbitrary separation of discussion of allied subjects. Thus, in the book before us, in discussing antipyrin, too much stress is laid upon the uses to which it may be applied, and too little emphasis given to its dangers—a fault inseparable from the design of the work, and found in all similarly arranged books. No work on Therapeutics that omits to classify its remedies and discuss them philosophically can aspire to the highest class. Of the books of its own class, Professor Shoemaker's compares more than favorably with all the others in the market, and, taken in conjunction with explanatory lectures, will be useful to the student. The experienced physician will find it handy for quick reference. Within the limits expressed we do not hesitate to recommend it.

Notes.

Professor Charles K. Mills has recently been elected Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania. His acceptance of this position will in no way alter his relations with the Philadelphia Polyclinic, or interfere with his work in that institution.

Dr. Wharton Sinkler, Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases, Neurologist to the Philadelphia Hospital, and Physician to the Epileptic Hospital of Philadelphia has been elected Professor of Nervous Diseases in the Philadelphia Polyclinic. His teachings will be done at the Infirmary for Nervous Diseases and the other institutions, with which he is connected.

Heart Failure is a diagnosis that does not diagnose. Such is the opinion of the Philadelphia Board of Health, and, hereafter burial permits will not be issued on certificates giving it as the cause of death without indicating the disease which produced it.

It is believed that the acceptance of such diagnosis furnishes an opportunity to conceal the existence of contagious diseases; permitting the undertaker or family of the deceased to disregard ordinary sanitary regulations.

At the meeting of the American Medical Association, two of the most successful sections were those of Neurology and Medical Jurisprudence, and, of Ophthalmology, presided over by Professor Charles K. Mills and Professor Samuel D. Risley. The same success may be predicted for next year's meeting of the section of Surgery and Anatomy to be presided over by Professor John B. Roberts.

THE

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DIET IN DYSPEPSIA.[1]

BY SOLOMON SOLIS COHEN, M. D.,

PROFESSOR OF CLINICAL MEDICINE AND APPLIED THERAPEUTICS.

Gentlemen:—I have been requested by some of the class to speak to you to-day of "diet in dyspepsia." I confess that I do not know just what "dyspepsia" means. There is a variety of disorders of known and unknown pathology and origin, and which exhibit in varying degree and combination, more or fewer components of that complexus of symptoms which is usually regarded as justifying the use of the word. To discuss all, or even the principal few of these would far outrun our limit of time. Perhaps we can simplify and somewhat reduce our task by using an English word "Indigestion," which commits us to nothing more than a patent condition, and by implication excludes recognizable structural diseases, and those aberrations of function which accompany or follow acute and chronic systemic maladies of various kinds. We still have left a variety of disorders requiring diagnostic discrimination, but as we have studied the diagnostic points from time to time as the cases presented, and as we shall now discuss principles rather than specific applications, the questions of diagnosis need be alluded to only incidentally. So, too, we must take for granted a knowledge of the physiology of digestion, and of the chemical and nutritional relations of the various food stuffs.

[1] Clinical Remarks at Polyclinic Hospital.

In the prescription of diet for a patient, our directions must be definite. We must tell him when to eat, how to eat, what to eat, and how much to eat. We must avoid unnecessary restrictions, and endeavor to provide him with variety. Nor must we forget to cater for the pleasures of the sense of taste. We must consider the age and the habits of the patient; that is, his occupation, his means, his facilities for open air exercise, all the little details of daily life and of environment.

We must also consider his former diet, both with the idea of correcting its errors as to quantity or quality, and for the purpose of learning in how far we may venture to make changes with the hope of being obeyed. Much judgment is often required in this latter particular in order to make our specific directions correspond with our general principles, and at the same time have reasonable assurance that they will be carried out.

Among the most frequent causes of those forms of digestive difficulty without grave lesion ordinarily encountered, are errors in mode of life, in mode of eating and in mode of cooking. No men or women give sounder advice, as to the importance of proper exercise, of regularity and simplicity in meals, of proper and leisurely mastication, than do physicians; nor do any more scrupulously disregard all these injunctions. Many of the worst cases that have come under my care have been those of physicians and medical students. They say they "can't help it." If this be true, and we must admit that in some respects it is, we must equally take into consideration the "can't help it" of other professional or sedentary workers. Where habits are not amenable to alteration, greater dietary strictness is required. That man in the natural state is an omnivorous animal, is proved by his teeth and other facts of structure. It is very probable that the wild men from whom we are all descended, or ascended, whatever may have been their habits, and whatever their ordinary diet, whether fruits and nuts or the flesh of other wild animals; whether they gorged or were compelled to endure prolonged

fasts; did not know, except when torn with hunger, that they possessed stomachs. Civilization has changed this to a great extent; and yet those who lead a natural life, do not often suffer with indigestion. "Live on sixpence a day and earn it," is a maxim attributed to Abernethy. We frequently meet manual laborers, artisans, farmers and others who live much out-of-doors, and use their muscles constantly, whose diet is anything but in accordance with our theories; and yet whose digestion is to all appearances perfect. The classes that suffer the most are professional men and women, merchants, clerks, shop girls, factory girls, the slaves of the needle, and the slaves of fashion. The mode of life of the patient then, is an important factor in the question of diet. If we are compelled, on the one hand, to restrict the indulgence of the fashionable idler, we may also, on the other hand, desire to enlarge the meagre fare of the pallid seamstress. The bacon and potatoes which have served admirably for the stevedore will not be fit for the round-shouldered bookkeeper. What is only sufficient for the young and active, would be excessive for the aged and inactive.

Where indigestion depends upon errors of diet, merely, and let me repeat that the habits of the patient, in so far as these are determined by circumstances beyond control, must be considered before we decide as to whether or not he is committing errors of diet— recovery can often be promised, upon correction of these errors.

Frequently, however, and especially in professional men, in persons of sedentary occupation, and in fashionable women, there is in addition an acquired or hereditary tendency to lithemia, to overproduction of uric acid; and this tendency is connected with the indigestion in a vicious circle of action and reaction; so that when a patient comes under observation it is often impossible to determine which has been the cause and which the effect. We must attack the circle at the most accessible point, without too curious speculation as to its initiation. These cases in which the vitiation of circulatory fluids, and consequent nervous dis-

turbances, so often suggest a false diagnosis of "neurasthenia," are among those in which much can be done by judicious regulation of the diet; but other hygienic and medicinal measures will be additionally required. Without attempting to decide between the various theories concerning the production of lithæmia, a subject toward which the impartial critic must at present be somewhat of an agnostic, it is sufficient to know that over-ingestion of albuminous matters will increase the amount of uric acid produced by the subjects of this diathesis; and that the same can be said concerning the carbo-hydrates and certain alcoholic preparations, especially malt liquors. In these cases, then, without regard to occupation, except to be still more strict with persons by whom sufficient open air exercise cannot be taken, we must restrict the amount of obnoxious aliment. There is no necessity to entirely interdict any whole class of food stuffs. We must cut down the excess, and in this must of course be guided by individual conditions. There can be little doubt, I think, that Americans, as a rule, consume entirely too much meat. We have but to contrast our diet in this respect with that of the poorer paid but better nourished European and Asiatic races. Climate has something to say in the determination of diet but neither our climate, nor that of England, whence we inherit our tendency to excessive beef eating, necessitates that excess. Immigrants very soon fall into the habits of the country, and their systems not being adjusted thereto, these furnish the greater proportion of the manual laborers who haunt our clinics, complaining of indigestion. We will usually have to cut down the amount of meat, and almost always among the poorer patients alter the method of cooking it. The frying pan and the lard pot are the curses of American kitchens. Meats should be boiled, braised, broiled rare, or roasted rare. Poultry should be boiled, braised, broiled or roasted. It must be thoroughly cooked; but not done to dryness. With our richer patients we may have to correct errors of too elaborate cookery and to prohibit the eating of more than one

kind of flesh at the same meal. The principal object of the latter prohibition is to secure complete digestion, for when articles of greatly different rates of digestion are mingled in the stomach all the processes are delayed. Upon general principles, select the article, whether meat, cereal, or vegetable, that has the most rapid digestive rate, but if this rule be departed from, for the sake of variety or other reason, do not mix aliments of the same class having different digestive times. This is the objection to elaborate dishes and much "fancy cookery." The slow rate of digestion is the great objection to pork, veal and other meats of hard fibre. Fish is a useful substitute for meat, being less rich in the elements that, for their perfect disposal, require active exercise. Peas, beans and the legumes generally, properly cooked, may also be used to substitute animal proteids; unless they produce flatulence. The starches and sugars are obnoxious in lithæmic cases, not that when properly digested they give rise directly to uric acid or to intermediate products favoring its production, but that as in other cases of indigestion, and especially if there be a condition of gastric catarrh, they are liable to cause acid fermentation, and thus indirectly favor the lithæmic condition. Among the most objectionable of the starches for this reason, in all forms of indigestion, is the potato. It should be absolutely forbidden in gouty indigestion; but in other cases, we may once in a while, as a special favor, permit one if well roasted and mealy. The powdery condition will permit of the more ready penetration of the digestive juices into the interior of the starch granules. As potatoes are ordinarily eaten by many persons, that is, boiled more or less hard, and in large pieces, imperfectly masticated, this penetration is exceedingly difficult. They are apt to remain in the stomach or intestine, undigested, covered with glairy mucus, affording a fit culture medium for the various bacteria of fermentation, always to be found in the alimentary canal. For a similar reason are pastries, puddings and the like, objectionable. The potato may serve as a type of tubers and roots in general. Their physical con-

dition, raw and cooked, must be considered, and as a rule, they are to be avoided as far as possible. Another objection to overplus of carbohydrates is, that being more readily oxidizable they are oxidized in preference to nitrogenous matters and hence the latter do not progress to urea formation with liberation of CO_2 and H_2O but oxalic and uric acids are produced by lesser oxidation. Rice, well cooked, so as to thoroughly soften the grains, is the least objectionable of the starchy foods, and may be permitted in most cases. Among the cereals, which contain both starch and gluten, the only one which I would absolutely prohibit is oatmeal. Nutritious though this may be, from its richness in gluten and oil, it is extremely difficult of digestion, slow in rate and therefore to be rejected. The greatest difficulty will be found in the case of bread. We can limit this or prescribe the kind, but it is unnecessary to ask, and useless to expect that it will be given up even temporarily. Fats should be taken in proper quantity. This is an important element in all dietaries. The preferable fat is butter, next to that, beef fat. On the other hand, too much fat, greasy and so-called "rich" dishes, are extremely difficult of digestion and should be prohibited. Green vegetables, lettuce, celery, spinach, water-cress and the like may be freely eaten. They are valuable in that they furnish salts of vegetable acids of a desirable kind, and by reason of their agreeable flavor, enable us to vary the diet pleasantly.

Fruits are desirable for similar reasons and because they often do away with the necessity for purgative medicines. Experience is the best guide as to which fruits if any, should be interdicted in a given case. Bananas are usually the least digestible. Sometimes after eating pears, patients will pass a quantity of a peculiar form of cellulose which resembles fine sand, and is often quite black in color. When its true source and nature are unknown, this may be a cause of anxiety.

Milk, while it is largely an albuminous food, contains as well all the other elements needed for nutrition, and is extremely bland and easy of digestion. It is, therefore,

useful, not only in lithemic cases, but in all others; in fact, in all cases where a restricted diet becomes necessary.

We frequently find patients who complain that milk "disagrees" with them; it causes "biliousness" or constipation or whatnot. This may be true in exceptional instances. In most, it is due to the manner in which the milk is taken. Acids coagulate albumen; the casein of milk and the stomach acids are not exceptions. In fact, the coagulation of casein and its conversion into metacasein, as by rennet in young animals that are exclusively nourished with milk, is the first step in digestion. But the hard, tough coagulum formed by the sudden admixture of milk and acid is quite different from the mass of minute floccula formed in normal digestion. Let the milk be taken slowly; sipped, rolled about in the mouth till thoroughly incorporated with saliva, and then swallowed; taking ten minutes to a tumblerful of milk, instead of that many seconds; and it will be found to agree perfectly in most cases. By some patients, it is best taken warm; by others, cold. This is a matter of individual experience. In some cases of special acidity of the stomach, lime water, as you know, must be added in sufficient quantity to overcome the excess of acid, or an alkaline powder can be given just before the milk is taken. When it will not digest, even if alkalinized and swallowed slowly, the addition of a pancreatic preparation will secure its digestion within or without the alimentary canal as may be considered most desirable.

Our ordinary custom here, as you have noted, is to give with each tumblerful (about half a pint) of milk, two and a half grains of pancreatic powder with seven or eight grains of sodium bicarbonate. The pancreatic powder and soda are dissolved in an ounce or half ounce of water and added to the milk at the time of taking. The bitter peptone taste is thus not developed.

In non-gouty cases, the question of restricting meats principally, or starches principally, must depend upon the symptoms produced by these kinds of foods; largely then upon the question of whether we are dealing principally

with gastric or intestinal indigestion. The patient will usually have arrived at this in a general way, empirically; and his experience is to be accepted, not totally or unmodified but as a factor of some weight both in treatment and in diagnosis. For though the digestion of albuminoids, is possible even in the complete failure of peptic digestion, the digestion of carbohydrates, cannot go on unless the diastasic juices of the intestine and pancreas, are present in sufficient quantity and of sufficient activity. In my own experience, intestinal indigestion is the more common. The principal symptom in diagnosis, apart from the intestinal distension and the character of food that causes most distress (proteids in gastric indigestion, starches and fats when the trouble is intestinal) is the time after eating at which pain or distress is noted; within an hour or at most an hour and a half in gastric indigestion; and from an hour to three hours in intestinal indigestion. Examination of the gastric contents, showing normal acidity would also point to the intestine as the seat of trouble.

In all cases our aim must be as soon as possible to return to a generous diet, free from obvious gross errors. If we go on adding restriction to restriction, we bring our patients into a pitiable condition of mind and body. When there is an irremediable diathetic difficulty, of course our restrictions must, in part be permanent, because the condition is permanent. In such cases we may begin with an exclusive milk diet, for the purpose of pleasing the patient by gradually adding the other permissible articles; and in some non-diathetic cases, we may for disciplinary purposes, legitimately resort to the same expedient. I will confess that this is the only good I have ever been able to derive from any form of exclusive diet in chronic cases.

To sum up: What we can endeavor to do by dietary restrictions is, first, to correct obvious errors, whether of omission or of commission, relative to the patient's age, occupation and environment; second, to put the stomach or intestine at rest functionally, whether to permit recupera-

tion, or to avoid irritation of inflamed surfaces, etc.; third, to remove sources of deleterious products, for example, direct stimulants of uric acid production in lithæmia, or readily fermentable articles, giving rise to acidity. According as the conditions are permanent or temporary so must be our restrictions.

Medicinal measures do not fall within the scope of our present remarks. One other expedient, however which if not dietic is closely related with diet, may be alluded to. I have found in most cases that the drinking of hot water, an hour before meals, as a measure to secure cleanliness of the secreting and absorbent surfaces, and as a gentle stimulant to healthy secretion, is as useful as its advocates have claimed. Where it fails to accomplish the purpose, lavage may be employed; but this would be in cases of pronounced gastric disease such as that of the patient with chronic catarrh of the stomach, upon whom we passed the tube and performed this useful little operation the other day. Although this clinic was one of the first, if not the very first in this country, to systematically practice lavage, we do not now resort to the procedure so frequently as we did in former years. In its place it is undoubtedly useful, and every little while we find a case requiring it, at least for a few weeks. But there are many cases in which simply drinking hot water before meals is equally efficacious, less troublesome, and less likely to give rise to accidents such as those collated by Fenwick.

It is true that accidents are rare, and personally I have had no unpleasant experience with the stomach tube, but I think that if you will analyze the journal reports, you will find that those authors most enthusiastic as to the range of utility of lavage are in the main, those whose resort to it is the most recent. I still hold, however, to the opinion expressed some seven or eight years ago, in my first papers and lectures on the subject, that while lavage is a valuable addition to our resources, the measure is not to be employed without discrimination or to be continued for too long a time in a given case.

HYPERTROPHY OF THE FAUCIAL TONSIL.

By William S. Shimer, A. M., M. D.,

laryngologist and otologist to the union mission hospital; chief of the ear clinic in the philadelphia polyclinic.

Enlargement of the tonsils is such a very common affection that every physician, whether specialist or not, should be well acquainted with the means of diagnosis, and the best modes of treatment of the disease. Although the writer has, perhaps, nothing new to offer, yet there are several points that have heretofore been but lightly touched on, or entirely passed over.

The faucial tonsils, so-called in contradistinction to the pharyngeal tonsil, is composed for the most part of lymphatic tissue, and is placed between the anterior and posterior palatine folds. It is by reason of its peculiar anatomical construction and exposed position that it is so often the seat of disease.

The strumous diathesis is thought by many to be the chief predisposing cause. Beyond all doubt the greater number of these cases occur in scrofulous patients, as it is one of the lymphatic manifestations. It must be remembered, however, that not all strumous persons are affected with enlarged tonsils. In those escaping this condition there has been an absence of sufficient irritation to start the morbid process. Other causes are scarlatina, rubeola, diphtheria, variola, erysipelas and syphilis, and climate and occupation are frequent exciting factors.

There are several varieties of hypertrophied tonsils. We have what might be called the "overgrown" tonsil, in which the constituent parts are overdeveloped in almost equal proportions.

Frequently such patients experience no discomfort whatever from their tonsils, the overgrowth not being sufficient to cause even appreciable mechanical obstruction. I have often been astonished to learn from such patients that, notwithstanding the apparent morbid size of the tonsils, they have never been subject to attacks of tonsilitis, nor have

they felt any inconvenience whatever from them. This statement I have accepted only after the most careful inquiry. As far as it relates to acute attacks it is probably reliable, although it is possible that the patients have become so accustomed to the discomfort which such masses generally produce, that they have grown insensible of it. Such tonsils are, however, much more prone to become affected by acute attacks of inflammation than a perfectly normal one.

Acute inflammation may involve principally the crypts, giving rise to acute follicular tonsillitis, characterized by the formation of cheesy, gritty masses presenting through the orifices of the crypts; or the inflammatory process may involve the connective tissue between the crypts, which will finally cause a hyperplasion of that tissue, the tonsil being gradually converted into a hard, tough body, which may be designated a "sclerosed" tonsil. During these inflammatory attacks, it frequently happens that the tonsils become adherent to the palatine folds, the anterior, posterior, or both. It is highly important to bear this fact in mind, as it involves a very essential point in the treatment.

Another and rarer form of enlarged tonsil, is that in which we have a constant hyperemia, due to irritation. The enlargement is not great, but the gland is red and swollen in appearance. In one such case this condition had existed several years. It is hardly possible, however, for such a condition to continue without eventually giving rise to one of the previously named varieties of hypertrophy.

In the case referred to, the source of the irritation was found to be in the adherent palatine folds, and by breaking these up, a cure was speedily effected.

Before these adhesions were removed, every act of deglutition, and even of phonation, caused the tongue to pull upon these folds, so that there was a constant fretting of the tonsils, and a consequent irritative hyperemia.

These adhesions also interfered with the lymphatic circulation, and occluded the mouths of the crypts in the covered up portion of the tonsils. This patient's tonsils

were in such an irritated and sensitive condition that they were a constant source of discomfort, and upon the least provocation would set up a violent acute attack. They offered no mechanical obstruction. This was two years ago, and, as yet, they have not troubled her since the breaking up of the adhesion.

Very often, after tearing these adhesions, the tonsils slip back into the interpalatine space, and what had before appeared a good sized hypertrophy now assumes more the aspect of a normal tonsil, and after a regime of careful local applications, ceases to trouble the patient. The importance and beneficial results of this particular treatment were first impressed on the writer's mind by observing it in the hands of Professor Seiss.

It is not difficult of performance generally, although at times the bands are quite firm. It is best accomplished by means of a bent, blunt probe, as, for instance, a stout aluminum applicator, with one end bent at a proper angle, or preferably, Professor Seiss' special instrument, which consists of a flat, heavy, hoe-like probe, mounted in a solid handle. Too much force must not be used, as there is danger of tearing the delicate edge of the palatine fold, instead of the fibrous band, which at times is firmer than the fold itself. Should this happen, there will ensue considerable hemorrhage, which has, on several occasions, proven very annoying and obstinate.

The operator must not expect to remove all these bands at one sitting, unless there are but few of them, or the patient is a very tractable one. There is no way of keeping these surfaces apart, so that one is apt to be annoyed by finding at the next visit of the patient that new adhesions have formed, consequently, it is best to tear as many as possible at the one sitting, and to see the patient again in the course of a few days, so that by persevering they may eventually be entirely removed.

Search should then be made for occluded crypts, which, if found, should be evacuated and an iodine solution applied deeply into the tonsillar substance.

The diagnosis of enlarged tonsils is not difficult. Generally, it is only when the hypertrophy is one-sided, that a differential diagnosis must be made. Not only is it necessary to decide whether the tonsil is hypertrophied, but we must also determine the nature of the hypertrophy, i. e., whether it is a simple hypertrophy or sclerosed. To the specialist this is an easy matter. The general appearance of the tonsil at once suggests its density. A sclerosed tonsil looks hard, and touch will verify this. A sclerosed tonsil is also irregular in outline and surface, whereas the other still retains the general contour of the normal tonsil.

Symptoms.—Briefly enumerated, they are, interference with the passage of food; a thick, mushy voice, the nasal element being wholly or partially absent; a foul taste in the mouth; dirty yellowish coating over that portion of the tonsil supplied with circumvallate papillæ, the papillæ themselves being also enlarged; deranged digestion; mouth breathing, which is aggravated by association with adenoid tissue in the vault of the pharynx; disturbed sleep, at times amounting to night-mare; liability to frequent attacks of acute tonsilitis; discomfort in the throat; and in children a disposition to croupy attacks at night.

Enlarged tonsils offer a most excellent lodging place for fish bones, bristles from tooth brushes, et cetera, so that when a patient presents himself, complaining of having swallowed a fish bone that has stuck in the throat, search will, in most cases, reveal it sticking fast in one of the tonsils.

Treatment.—This depends to a great extent upon the nature of the hypertrophy. If there has been only a slight increase in the amount of connective tissue, very good results can be obtained from a persistent course of alterative applications to the tonsillar surface. The one that has proved most satisfactory to me is the following:

℞.—Iodini (crystals)	. .	gr. viij.
Potassi iodidi	. . .	gr. xxxij.
Glycerini	. . .	℥ss.

This is to be applied three times a week, if possible. Care must be taken that none trickles down the posterior pharyngeal wall, as it is very irritating to the mucous membrane, and, besides, may set up violent laryngeal spasm, if it should happen to enter the larynx.

It is not at all necessary to reduce the tonsils to a normal size. If the inflammatory process that is going on in them is checked, and as much as possible of the resultant products be removed, enough has been done, provided there is no mechanical obstruction.

The simple hypertrophied tonsil in a strumous patient no more requires invariable entire removal than an enlarged lymphatic gland elsewhere, under the same conditions. When these become inflamed, we first try to reduce the inflammation, and succeeding in it, most of us are content. Why should not the same be true of the tonsils?

To be sure, they may again become inflamed, but prompt treatment will relieve it. Besides, the treatment previously outlined will render the tonsils less liable to subsequent attacks.

Excision.—This brings us to the consideration of tonsillotomy. The question arises, "In what cases are we to resort to tonsillotomy?" Secondly, "How much of the tonsil shall be removed—the whole, or only a portion of it?"

Given a case of sclerosed tonsil we have very little hope of accomplishing anything by means of local applications. The same is true of those tonsils that are so much enlarged as to offer serious obstruction to breathing and deglutition. If separation of the adherent palatine folds and conscientious local treatment by applications have failed, it is better to proceed at once to amputate.

This, when done by means of Mathieu's tonsillotome, soon becomes an easy matter, but the consequences, at times, are quite serious, even fatal. It may seem a very trivial matter to some operators to have to tie the common carotid artery, or to reduce a patient to an almost ensanguine condition, but I have never been able to view it in that light. The

risk to the patient's life is hardly compensated for by the benefits expected to result from the operation. Therefore, it should not be undertaken unless other means have failed.

Frequently the hemorrhage is from the palatine artery. The operator has failed to remove the adhesions between the tonsils and the folds, so that as the prong of the instrument pulls the tonsil from its bed, it carries the folds with it, and the knife cuts its way through the fold, as well as the tonsillar substance. He who has been unfortunate enough to experience this, will hardly be apt to forget it. The hemorrhage is profuse, and owing to the delicate structure of the fold, can only be checked by direct pressure of the operator's finger.

As much of the tonsil should be removed as can *easily* be included in the guillotine. It is a decided advantage to have the patient gag, as this movement raises the tonsil from its bed. This is one of the reasons why it is best to perform the operation without the aid of a general or local anesthetic.

Extirpation of the tonsils is dangerous and difficult. The results are very little, if any, better than those attending partial removal of the tonsil. It is a noteworthy fact that those whose tonsils have been extirpated, suffer afterward from chronic dyspepsia.

THE TREATMENT OF PROLAPSE OF THE UTERUS.[1]

By Frank W. Talley, M. D.,
INSTRUCTOR IN GYNECOLOGY, PHILADELPHIA POLYCLINIC.

Gentlemen:—In a department of medicine in which progress is rapidly being made, it is well, occasionally, to review the present standing. Especially is this true in gynecology, where recent modifications of the operative technique have enabled us so greatly to enlarge our field of possibilities. I wish, therefore, to recount the various methods at present advocated for treating prolapse of the uterus.

[1]Lecture delivered before the class of the Philadelphia Polyclinic.

The treatment of prolapse of the uterus is either palliative or radical. By palliative treatment we mean the adaptation of external support to the retention of the uterus in the pelvic cavity. This form of treatment is not curative and is only to be applied where the prolapse exists in the old and feeble, or when curative means are refused by the patient.

Palliative treatment. The first indication in the treatment is the return of the uterus to the pelvis; to be followed by the use of tampons, which secure its retention and serve for the application of remedies to deplete the congested vessels and heal the erosions or ulcers, commonly present upon the parts of the tumor exposed to the friction of the clothing.

Usually the uterus is large and congested from a loss of balance between its arterial and venous circulations. While the uterus is in its normal position in the pelvis there is an equality between arterial supply and venous return. In the prolapsed uterus, however, the broad ligaments, through which these vessels pass, may be felt, if the woman be examined standing, as tense bands on either side of the canal previously occupied by the vagina. The thick walled arteries, aided by their intra-arterial pressure have now no difficulty in conveying blood to the uterus, while the thin walled veins, compressed by the tension of the broad ligaments, return it imperfectly. Hence it is that the uterus is large, heavy and congested.

In the treatment of such a case, the patient is placed in the dorsal position and the uterus returned to the pelvic cavity by pressure, exerted in the line of the axis of the vagina. A bivalve speculum is then introduced, the cervix and vaginal vault carefully mopped by a tuft of cotton, held in the grasp of a vaginal dressing forceps and wet with a carbolic acid solution (1:40). The parts are then dried with absorbent cotton and the cervix punctured by several stabs with the scarifier.

After the bleeding has ceased the vaginal vault is again dried with bits of cotton and two or three teaspoonfuls of dry

powdered boric acid introduced far back, through the speculum. Now using a bit of cotton in the forceps for a puff, the mucous membrane of the vagina is carefully powdered with the boric acid, the speculum being rotated, meanwhile, that all of the vaginal walls may be exposed. Antiseptic wool tampons, wet in glycerin are then introduced; one back of the cervix, one in front and one to either side. The vagina is then filled with dry wool tampons and the speculum withdrawn, care being taken to make counter pressure upon the tampons, meanwhile, to prevent their being dislodged.

The patient should be directed to return in two or three days that the tampons may be removed, the vagina douched with pure water and the same procedure enacted. This method of treatment should be persevered in until the erosions or ulcers have healed, the uterus has diminished in size and the vaginal walls have put on a more healthy appearance.

Some form of external support is now to be adapted to maintaining the uterus in its proper position. Various forms of pessaries have been devised for this purpose, such as inflated rings, balls, rubber rings, etc. These retain the uterus by overstretching the vaginal walls. Sooner or later the tissues relax and the condition is worse than before. The best form of support is afforded by a cup and stem pessary supported by a belt around the waist. Such as Goddard's or the McIntosh pessary.

The instrument should be removed at night before retiring and the vagina douched with plain warm water or boric acid solution. By doing so, the erosions of the cervix and vaginal vault, caused by the constant pressure of the cup, are avoided.

Radical treatment. The radical treatment of prolapse of the uterus consists in the adaptation of operative measures for its cure. It is the rational form of treatment and should be selected unless the patient be old and feeble. The selection of the operation depends upon whether the woman is

still in the child bearing period. If the patient is capable of bearing children no means should be used that would interfere with her future maternity. The choice of operation then should consist in the narrowing of the vaginal tube, by anterior colporrhaphy, and the restoration of the perineum or colpo-perineorrhaphy.

The anterior colporrhaphy may be performed by a simple oval denudation upon the anterior wall of the vagina, extending from one inch in front of the cervix to one inch behind the meatus, and far enough laterally to take up the slack, and is closed either by sutures passed from side to side, or by a single suture, with a needle threaded upon either end and passed in and out around the circumference of the oval half an inch from its margin. When the latter suture is introduced, the denuded surface is to be pushed back toward the bladder as the ends are drawn tight and tied.

The best method for restoring the perineum is that of Emmet, with which you are familiar. A simpler operation, much liked, is that of Hegar, consisting of a simple triangular denudation with its apex at the crest of the rectocele and its base at the skin margin of the perineum, extending to a caruncle on either side. The stitches are placed from side to side in the vagina and when the angles of the base with the sides of the triangle are reached, continuing on in the skin surface of the new perineum.

Simple narrowing of the vaginal calibre, however, affords little more than temporary relief unless the uterus be kept in anteversion. The wedge-shaped uterus, merely pushed back in the pelvis and resting upon the narrowed tube, will gradually, by the weight of the intestines and intra-abdominal pressure, dilate the canal and pass through to its former position. To prevent this we must draw the uterus forward and fasten it in anteversion so that its axis and that of the vagina may be at more or less a right angle. To effect this the round ligaments may be shortened or the fundus of the uterus stitched to the abdominal wall.

The simplest of these measures is the Alexander's opera-

tion in which the round ligaments are shortened outside of the pelvis where they emerge from the inguinal canal. This operation is, however, not reliable. Gill Wylie and Dudley of New York, advise shortening the round ligaments in the pelvis by doubling them upon themselves and then suturing them. This requires the opening of the abdomen.

The best and surest means of supporting the uterus in anteversion consists in suturing the fundus to the anterior abdominal wall or hysterorrhaphy. This is a simple operation and yields the best results. If performed under rigid antiseptic precautions it should be attended with no greater mortality than that of the simple plastic operations, which is comparatively nil.

The operation is performed as follows: The patient, after being purged with a saline on the day preceding the operation, is placed upon a kitchen table, preferably upon Krug's frame by which the pelvis may be elevated. The abdomen is scrubbed with soap and water for five minutes, after which it is bathed, successively, with ether, alcohol and bichloride of mercury solution (1 : 500), and wiped dry with a sterilized towel. The field of operation is now protected by several sterilized towels and an incision an inch and a half long is made in the median line, about two-thirds the distance from the umbilicus to the pubis, and carried down to the peritoneum. This is raised between the grasp of two hemostatic forceps and incised. A finger is introduced and adhesions of the uterus posteriorly are broken up if they exist.

The fundus of the uterus is now raised to the level of the incision. A stitch is introduced by a large-sized, well-curved needle, through the abdominal wall on one side of the lower end of the incision, passing through the fundus of the uterus just posterior to a line drawn between the insertion of the tubes, and then through the abdominal wall on the other side of the incision. A second stitch is similarly passed, half an inch above the first through the abdominal wall and half an inch behind it through the fundus. Stitches are passed through the remainder of the

abdominal wall in the usual manner. The abdominal wound is then separated and the surface of the uterus included in the sutures is denuded of its serous membrane by scratching it with the end of the knife. The stitches are then drawn tightly and tied.

The two stitches in the lower angle of the wound including the uterus should be shotted in order that they may readily be recognized when the others are withdrawn. They are left in place for three weeks, while the stitches through the abdominal wall are removed on the seventh day. Silk-worm gut affords the best material for these sutures.

As a result of this operation, adhesions form between the denuded surfaces of the fundus and the abdominal wall. The weight of the uterus finally draws these out into a strong fibrous band—a true artificial ligament. Observation of a number of cases has proved that the operation does not interfere with the process of pregnancy, nor does the attachment rupture during the changes in the uterus incident to that period. It is an operation to be recommended on account of the ease of its execution, its safety when performed under strict antiseptic precautions, and its excellent result.

In women past the child-bearing period, the indication, especially if the uterus is enlarged, is its complete removal by vaginal hysterectomy. The uterus is, to this class of patients, a useless organ and one capable of great mischief. It is at this time that carcinoma so frequently occurs, and especially if the organ be increased in size, the woman had better be rid of it. The mortality following vaginal hysterectomy is but slightly greater than that of simply opening the abdomen as in hysterorrhaphy.

When the uterus is outside the body vaginal hysterectomy may be performed with ease. The broad ligaments are tied as far away from the uterus laterally as possible, in three or four ligatures on each side, the uterus and ovaries cut away, the vagina pushed back into the pelvis, and the stumps drawn through the opening in the vault and fast-

ened there with sutures. The wound in the vaginal vault is then closed with sutures and when convalescence has taken place the vagina will be found anchored firmly in its normal position. Catgut should be used for the ligation of the ligaments and for the sutures, as it requires no subsequent removal.

Should the patient object to this proposal, or should the uterus be atrophic, the operative procedures should consist, first in the amputation of the cervix, to remove as much as possible of its weight and to institute a process of retrograde metamorphosis which will still further diminish the size of the organ. After this has been done the narrowing of the vagina by anterior colporrhaphy and the restoration of the perineum may be performed and a good result hoped for.

Favorite Formulas.

For Conjunctival Inflammation.—Among ophthalmic surgeons, solutions of boric acid with or without the addition of a certain amount of borax are in constant use for inflammation or irritation of the conjunctiva. The beneficial influence exerted by them, is strictly confined to the conjunctiva, in inflammation of the deeper structures of the eye, they are useless. A common proportion is

Boric acid 3 parts, [12 grains.]
Distilled water, 100 parts, [1 fluid ounce.]

In water at ordinary temperatures, boric acid is only soluble to the extent of about 4 per cent., and to prevent any deposit, it is necessary to prescribe less than would make a saturated solution. As far as any excess of action upon the conjunctiva is concerned, it may even be applied in the form of powder, provided the powder is sufficiently fine (impalpable) without provoking irritation.

Where borax is added, it may be in the following proportion:—

Sodium biborate 1 part, [4 grains.]
Boric acid 3 parts, [12 grains.]
Distilled water 100 parts, [1 fluid ounce.]

Borax is much more freely soluble in water than is boric acid, but cannot be used in anything like saturated solutions without causing severe conjunctival irritation.

It should be borne in mind that boric acid, despite its name, is really slightly alkaline in reaction, and the addition of the sodium salt renders the solution very decidedly alkaline. Such an addition increases the cleansing power of the solution, and renders it more efficient as an antiphlogistic, in cases in which there is any appreciable conjunctival discharge.

These solutions are often spoken of as antiseptics, but they have very little reason to be so called. For any antiseptic effect, probably their most important ingredient, and this may be true of many other so called antiseptic solutions, is the water they contain.

They are simply cleansing and soothing in their action and may be used in all cases of conjunctival inflammation with the greatest freedom and without danger of injury. For slight hyperemia or irritation, indicated by burning, itching, or smarting of the eyes, five or ten drops is usually ordered to be used three or four times per day. Where there is marked purulent discharge, the solution is to be used by the drachm or half ounce every hour, or so often as is necessary to keep the conjunctiva thoroughly cleansed with it.

The application of such a solution is not followed by any smarting, burning, or increased pain of any kind; but usually by a very notable relief from such sensations. The solution of boric acid is on many accounts an admirable placebo, and it is to be born in mind when a placebo is required, yet it has a positive soothing and cleansing action.

It answers well as a vehicle for the mydriatics or myotics; although it has little or no power to prevent the growth of the low vegetable forms that are liable to infest such solutions, when kept long at ordinary temperatures.

EDWARD JACKSON.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Fracture of the Neck of the Femur.—Dr. Oscar H. Allis read a paper upon the diagnosis and treatment of this condition in persons in advanced life. He urged that in this particular fracture great mischief may be done in attempts to establish a diagnosis.

After sixty years of age dislocations of the hip are rare. It becomes reasonably certain that at the age of seventy or eighty an injury, whatever it may be, cannot be a dislocation. In many cases the amount of force is not sufficient to dislocate a joint. Cases are on record of aged females turning in bed and immediately complaining of pain in the hip attended with helplessness. One of the most frequent causes of hip injuries is a fall from the standing posture, hence, one can, from the history in many cases, exclude dislocation as a possible result of the accident.

Helplessness. In all cases where a person is rendered immediately and totally helpless, some grave injury must be predicated. One person will fall, fracture the neck of the femur, rise with difficulty, and by the aid of a friend or a cane walk home. Another cannot rise. But so far as the hip is concerned, both are totally disabled. If you observe the mode of progression you will see that scarcely any weight is placed upon the lame limb. With the hand placed upon the floor and the patient asked to step upon it and bear the entire weight upon it, you can demonstrate practically how little dependence is placed upon the injured limb. If the patient is lying in bed the degree of helplessness may be detected by asking her to flex the limb, or raise it full length from the bed. The imperfect, ineffectual effort, the insinuation of the sound toes beneath the ankle of the lame limb, are eloquent confessions of helplessness.

Inspection.–The patient lying in bed, if the two limbs are lying parallel, and both of them for their full length touching the bed all the way down, no possible dislocation is present. On the other hand, if the suspected limb lie parallel with

its mate, and full length upon the bed, but at the same time it is shorter and everted, you have good reasons to suspect a fracture; and if the injury occurred in advanced life and from a trifling cause, the seat of the fracture is in the neck of the femur. Eversion of the foot may not be present, but if you ask the patient to invert it no result will follow.

Manipulation.—Thus far the physician has at least done the patient no harm. The use of an anesthetic is often advised to elicit crepitus, but of all the signs of fracture none is more difficult to elicit than crepitus. In the effort to obtain it, the benefit of an impacted fracture may be lost or grave injury done to the surrounding structures.

To make a positive diagnosis, no other single symptom is equal in value to that furnished by the fascia lata. In case of fracture of the neck of the femur this fascia will be relaxed. It can readily be ascertained while the patient is recumbent, by gently adducting the suspected limb; under normal circumstances adduction makes the fascia tense. If it cannot be made tense in the injured limb as it can be in the sound, if the fingers can be depressed above the injured trochanter and are resisted upon the sound side, we have a most conclusive demonstration of fracture of the neck of the femur; and the diagnosis has been reached without entailing unnecessary pain or aggravating an injury, at best permanently crippling.

Treatment.—What he said on this subject applied only to such fractures occurring in the aged. If he were to give a universal rule, he would say, treat the patient and not the fracture. No one will ever know the number of deaths due to bed sores; the result of treatment of these fractures by means of splints and confinement. He reported two cases in which, without any treatment, the results were as good as could have been secured by the most elaborate apparatus.

The patient not surgically treated, treats himself surgically and scientifically. Owing to the pain in the hip, he is obliged to move with great care and deliberation, but regarding the injury as only a bruise, he asks to be helped

out of bed, for he argues that he is as well up as in bed. Thus bed sores are averted, while by deliberate, gentle movements no possible harm is done to the efforts at repair.

In these cases Dr. Allis turned the patient fully on the sound side. On the day after the injury he placed a pillow between the knees for comfort and to steady the injured limb. The lessening the danger of bed sores makes it possible to delay getting the patient out of bed. When the patient can bear removal to the chair, he attends to it himself; taking care that it is not done with haste or excitement. If surgical applications are employed, let them prove their excellence by increasing the comfort of the aged sufferer. He believed that nature never intended intracapsular fractures to unite with the bone, that the short proximal fragment is always without vascular support, the teres ligament not contributing to the food supply of the head of the femur. If such fractures united as do those of the shaft, the provisional callus would so involve the surrounding structures as to entirely destroy the function of the joint.

Dr. Wm. Hunt united cordially in almost all the views expressed. He was no believer in the power of absolute diagnosis as to whether the fracture is within or without the capsule. Hence, wherever treatment was required, he favored it as though it were partially outside the capsule, and in this way he treated many cases with very good results.

Dr. John B. Roberts felt sure that many people had been wofully damaged by meddlesome surgery in the attempt to make a diagnosis between intra- and extra-capsular fracture. Such a diagnosis often cannot be made by anybody, and if it were, it would be of no service. These fractures should never be subjected to rough movements to make out crepitus or preternatural mobility. A surgeon who cannot readily make a diagnosis of probable fracture of the neck of the femur, needs some further education, rather than some further knowledge to be obtained by manipulation of the patient. Many of these fractures are

impacted, and breaking up this impaction takes away the only chance which makes union possible.

In the treatment of these fractures, he always puts on a moderate amount of extension, which does good in preventing muscular spasm, which often is the cause of pain. For the first week or ten days, many of these cases have a good deal of muscular spasm from irritation of the muscular mass and the nerve filaments involved in the injury. He applies one or two bricks, weighing four or five pounds, by means of the ordinary extension apparatus.

There is no subject of more importance than this, for these injuries frequently lead to suits for malpractice, and physicians are often criticised by the lawyers because they have used no apparatus in a given case. If it be well understood that the profession do not consider it bad surgery to treat these cases without apparatus, it will be of service.

Dr. G. G. Davis agreed with Dr. Allis as to function of round ligament. Mr. Bland Sutton has shown that the round ligament is a regression from the pectineus muscle; that it is not an active body in itself, but rather the remains of a body that was some time ago of importance in the economy.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Pulmonary Complications Following Abdominal Section.—Dr. J. M. Baldy reported two cases of pulmonary disease. One was a case of acute congestion, dying before pneumonia had time to develop. The trouble began almost as soon as the patient came from under the influence of the ether. Respirations ran up to 40 per minute, and she died within 36 hours. The post mortem showed only intense serous engorgement of the lungs.

In the second case the temperature began at once to rise, reaching 101° the next day; 103° two days later, and after that as high as 106°. The patient died of double pneumonia. There were in the hospital at the time six or seven other cases of lung complications; in patients not operated

on and in patients who had been operated on two or three weeks before.

Recent Work on the Ureters.—Dr. Howard A. Kelly called attention to the importance of this subject on account of the valuable practicable results attainable and the new facts of importance it seemed destined to evolve.

The gynecologist is especially interested, on account of the definite causal relations that exist between the pelvic diseases and that of the ureter and kidney, and because the ureter is liable to injury during abdominal operations; it is directly accessible to exploration, requiring, however, the special skill of a gynecologist, and finally it promises to considerably enlarge his field of work.

The ureter can be palpated through the anterior vaginal wall from its terminus in the bladder up to the point where it passes beneath the broad ligament. It is rolled in the loose cellular tissue around it under the index finger or between the two fingers, or in advanced pregnancy on the head of the child like a narrow tape or flattened cord without hardness. In disease, it becomes nodular and thickened and is liable to be mistaken for cellulitis or adherent ovary.

Many cases under treatment for cystitis, or for irritable bladder, are in reality, tender thickened ureters.

The normal ureter can also be examined in the upper part of the pelvic course by introducing a ureteral catheter and carrying it to the brim of the pelvis. The landmark of the upper pelvic portion of the ureter is the internal iliac artery, which can readily be felt per rectum.

Through the abdominal wall the promontory of the sacrum may be located by pressure, and the point at which the ureter enters the pelvis is from three to three and a half cm. outside of and a little below the promontory.

He had also palpated the ureter after incising the vault of the vagina and through an abdominal incision made for the purpose.

To catheterize the ureter, the bladder is first emptied, then distended with about six ounces of methyl-blue

solution, so that the contents of the ureter can be readily distinguished from it. The catheter is introduced into the ureter by watching its movement in search of the urethral orifice by the distention of the anterior vaginal wall.

Among the applications of this method of examination had been the isolation of the ureter and guarding it during an extensive cauterization for carcinoma, the recognition of the kidney affected in hematuria, the recognition of stricture and distention of the ureter, for which relief was afforded by dilatation.

In one case of enlarged spleen mistaken for enlarged kidney, it was demonstrated that the latter was healthy. It made positive the diagnosis of pyelonephrosis, in one case, leading to operations and removal of a large calculus. In the search for calculus, a solid sound is of advantage, while to locate strictures bougies bulbous behind the tip are valuable. By catheterization of the ureters, we are also enabled to determine the amount secreted by each kidney.

Dr. Willy Meyer, of New York, mentioned three cases in which he had opened the ureter. In one there was total suppression of urine, five and a half weeks after oophorectomy. The ureter was found entirely clotted by coagulated blood and pus, which was cleaned out and the patient recovered and is well two years after operation.

In the second case it was done for intense colic. No obstruction was found, but the patient recovered and was relieved of the pain.

In the third case one and a half inches of the lower end of the ureter was removed with the tumor by supra-vaginal cystotomy. The patient was well seven weeks later.

Neglected Pus Tubes.—Dr. C. P. Noble reported a case in which operation was refused and the disease pursued its natural course, to death. The patient had evidence of serious pelvic inflammation for about five years, which culminated in an immense pelvic abscess that finally discharged without interference above Poupart's ligament. This confined her to bed nearly two years; the abscess filled the lower right quarter of the abdomen, and burrowed

down the thigh. In a second case the patient had in two years so far recovered as to be able to walk across the room with a little help, and the absence of hectic symptoms seemed to indicate that the pus sac had emptied itself.

Puerperal Septicemia.—Dr. Noble read a paper on this subject, maintaining that the seat of pelvic inflammation in the majority of cases is in the tubes and ovaries, or peritoneum, but wishing to protest against the position taken by some of denying the occurrence of inflammation of the pelvic cellular tissue. He had reported cases in which the diagnosis of acute inflammation cellulitis—was substantiated by abdominal section.

He reported a case in which exudate could be recognized in the right broad ligament. It rapidly disappeared under treatment. He believed it important not to lose sight of the occurrence of acute puerperal cellulitis and abscesses, even though their occurrence is rare.

Dr. M. Price had seen a case in which the diagnosis of puerperal peritonitis with exudate had been made by two of the ablest and most prominent men in the city, but in which the mass was removed simply by clearing out the bowels. In all his abdominal work he had never seen a drop of blood or pus in the folds of the broad ligament.

Dr. H. A. Slocum had seen a case in which, after slight laceration of the vaginal wall during labor, an abscess developed in the neighboring broad ligament; the tube and ovary being perfectly healthy.

Dr. Joseph Price said that in criminal abortion it is rare to find a patient dying from cellulitis alone.

Dr. Formad had told him that he found tubal and ovarian disease in about all the cases, and that he had never found so-called exudate in the broad ligament.

Book Notices.

CHOLERA: ITS CAUSES, SYMPTOMS, PATHOLOGY AND TREATMENT.—By Roberts Bartholow, M. D., LL. D., etc., Philadelphia, Lea Bros. & Co. 1893. 12 mo. pp. 132.

Although Professor Bartholow states that this latest contribution of his to the science and art of medicine is the product of "a period of enforced idleness, the convalescent

stage of a long and serious illness," it exhibits undiminished his characteristic vigor of thought, clearness of judgment, breadth of view, force and accuracy of statement.

His personal experience in two epidemics has permitted him to estimate at their true value the multitude of recent communications upon the subject; and his wide reading has made it sure that nothing of real worth has escaped his notice. We have therefore a judicial and scientific exposition of the present state of knowledge; and the fact that the author has felt justified in devoting a large portion of his space to treatment, is an encouraging sign. To produce cholera two etiologic factors are necessary; (1) bad hygiene, personal, municipal, State, and (2) a pathogenetic microorganism—the comma-bacillus. In addition there are special climatic and individual conditions that act as predisposing causes. Speaking with favor of early elimination, as by calomel, of the poisons contained in the intestines, the author prefers to all other treatment of choleraic diarrhea a mixture of aromatic sulphuric acid (4 parts) and deodorated tincture of opium (2 parts) of which 10 to 20 drops are given in cold water every $\frac{1}{2}$ hour, hour, or at longer intervals, as required. In some cases paregoric is to be preferred as containing camphor, anise and benzoic acid. Later, when antisepsis is required, naphthalin, beta-naphthol, and sodium arseniate are recommended. Opium must not be continued if the kidneys have ceased to functionate. Enteroclysis with tannin solution is commended. Intravenous infusion of hot saline solutions is deemed as yet doubtful; and it is suggested that smaller quantities than have been employed will have more success. Hypodermatoclysis is preferable, though slower, and is on the whole advised. For the uremic state pilocarpine and strychnine should be given hypodermatically. A number of expedients for maintaining the body heat are detailed. Among them we fail to find advised the wrapping of the patient in a blanket and placing him in a bed of slacking lime.

Many other subjects and remedies are discussed but we have cited what seems to us of paramount importance as the advice of an experienced and philosophic therapeutist.

S. S. C.

THE

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CLINICAL REPORTS: EXTRA-GENITAL CHANCRE.

BY ARTHUR VAN HARLINGEN, M. D.,

PROFESSOR OF DISEASES OF THE SKIN IN THE PHILADELPHIA POLYCLINIC.

The following reports are simply transcripts from my note book of more or less unusual cases which have presented themselves from time to time in the various clinical services with which I have been connected. Most of them are uncommon, some are rare, a few are nearly unique. It was originally my intention to group the cases reported so far as possible in accordance with their character and to add in some cases a practical commentary on those which might seem to demand such remarks.

With regard to the cases reported in the following pages circumstances have prevented my following the plan just traced and I now simply present the notes, intending at some future time to collate them with similar cases to be reported later.

INITIAL LESION OF SYPHILIS OCCURRING IN THE PALM.

Mrs. Annie McG., 52 years of age, married, came under my care at the University Hospital Dispensary in April, 1882. The patient enjoyed good health until October, 1881, when she ran a nail into the palm of the hand. While the sore was still open she handled some foul rags which had been thrown away from a hospital ward.

A week or two later the character of the wound in the palm changed. A slight induration or swelling of a painless

character showed itself at the site of the original lesion, accompanied by a serous discharge. Severe pain was noted simultaneously in the back of the hand.

Eight or ten weeks later general malaise, aching in the limbs and intense nocturnal headache ensued, and some time after a well marked eruption of an erythemato-papulous character pretty well distributed over the body and limbs followed. This eruption was at its height when the patient applied for treatment and an examination left no doubt of the diagnosis. The patient was placed upon appropriate treatment, and soon after the eruption disappeared.

Initial lesion of Syphilis occurring in the Tonsil.

Frank D., 9 years of age came under my care at the Howard Hospital Nov. 3, 1890.

The patient complained of having had sore throat for a month previously. His voice was hoarse. On examination a large deep ragged ulcer could be perceived on each tonsil. The surface of these ulcers was greyish in color, the edge sharply defined and deeply cut. The submental gland was swollen to half the size of a filbert, very hard and firm to the touch. There was a general illy-defined swelling of the neck. The ulcers were not at all painful, and with the exception of a slight difficulty in breathing the patient did not complain of any inconvenience in the throat.

There was a typical erythematous syphiloderm distributed over the whole surface of the body and limbs, which the patient said had appeared about three weeks previously. He had some malaise with loss of appetite and was evidently out of health.

On inquiry it was found that the little boy was accustomed to sleep with his father who was a widower of some months standing and who the child thought had recently had some skin eruption. It appeared reasonably evident therefore that the disease had been contracted from the child's father through the usual contacts during sleep or perhaps through kissing.

The affection proved somewhat rebellious to treatment but

improved gradually under a course at first of protochloride of mercury $\frac{1}{8}$ grain thrice daily, and later of $\frac{1}{64}$ grain bichloride of mercury with two grains iodide of potassium thrice daily. Aristol dusted on the chancres aided much in their improvement.

INITIAL LESION OF SYPHILIS OCCURRING ON THE WRIST.

Jane McC., 47 years of age came under my care at the Howard Hospital, Oct. 22, 1890. She gave the following history. She was a widow and had always enjoyed good health. About the first of February of the current year she had taken charge of the new-born child of her niece. When nine weeks old the infant became ill, a generalized eruption, accompanied by a running from the ear, marasmus, and diarrhœa supervened. Finally death occurred on June 13 last.

The present patient noticed about the middle of July a tiny "speck" on the outside of the right hand below the wrist and near the root of the thumb. A little later this minute lesion became fissured, the edges showed induration, and the whole patch of disease increased to the size of a quarter of a dollar. At the same time the centre became moist, while the edges were hard and raised above the surface. While the lesion mentioned was undergoing this curious and characteristic transformation the glands of the axilla became involved and a "lump" formed in the armpit which could still be perceived at the time I examined her although smaller than it had been.

About seven or eight weeks after the appearance of the lesion on the hand the patient began to feel ill. She suffered with malaise, fever and headache, while a generalized eruption broke out over various parts of the body. This eruption was at its height when the patient sought relief at the hospital.

It was papular in character, and evidently syphilitic. The papules tended to take on a hypertrophic character. They were chiefly distributed over the face but were scattered over the body and limbs also.

The initial lesion could still be seen in the shape of a

patch of red, infiltrated skin just below the right wrist. The patient complained of a feeling "as if a string ran up the right arm" while the axillary glands, as has been noted, were still markedly infiltrated.

She was placed upon the protiodide of mercury in doses of ¼ grain, at first three times a day and, later, four times a day. The skin lesions improved rapidly, but iritis supervening the patient was transferred to the eye clinic and was not seen again.

Extra-genital chancres are always of interest because they are so easily mistaken for other and simpler lesions. Although not very common, I have met with quite a number at different times some of which I have reported. I have no doubt also that many of those cases of syphilitic eruption and late visceral lesions met with in daily practice where no history of infection is obtainable have originated in extra-genital contamination.

The initial lesion of syphilis is not infrequently one of the slightest and most insignificant conceivable. That of the last of the three cases above noted was of this character, and, had not secondary induration supervened, which is by no means always observed, no point of entry of the poison could probably have been detected at the time the general eruption broke out.

In my article on Syphilis in Ashurst's "System of Surgery," I have given several tables of statistics, showing the comparative frequency of extra-genital chancres.

According to Jullien, of 77 extra-genital chancres in the male, 36 occurred on the lips and 12 about the anus, while 2 were noted upon the fingers. In the female, of 82 extra-genital chancres 20 occurred on the lips, 21 about the anus and perineum and 11 on the breasts. The others were observed in various localities but none are noted as occurring in the precise points noted in these cases of mine. Chancre of the tonsil is not excessively rare, and has frequently been reported, but no cases are noted in the statistics quoted.

[*To be continued*]

REMARKS ON THE MEDICATION OF CHILDREN.

By J. Madison Taylor, A. M., M. D.,

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In the treatment of childish disorders the last thing to be considered is the medicine which shall be given. Then whatever is indicated is much more likely to be a simple corrective to an over acid stomach, or intestines, or something to rid the economy of retained waste, or a simple nutrient tonic. Specific medication, so often needed for adults is rarely demanded.

The more one keeps in view and develops the habit of thoroughly scrutinizing the mode of conduct pursued by the parents or nurses and the readjustment of these upon improved lines, by so much are pure drugs made of little account to the distinct gain of the patient. Of the vital subject of Nursery Hygiene, however, I have here nothing to say—my intention is only to make a few remarks on the use of such drugs as may be needed.

It is not rare for folks to submit their children to the tender mercies of the Homeoquack yet retain rational medication for themselves upon the ground that children should not be subjected to the infliction of nauseous tasted drugs. We need not so inflict children and it is only clumsy pharmacy which does this. In some instances it may be needful to use the rugged, sound old standbys which are not selected except for their undeniably good effects. Generally, we can well depend upon inoffensive medication. To begin with, a child has not a nice sense of taste till it is several months old—and again simple bitters—almost always offensive to women, are not objectionable as a rule to younger children. The truly horrible messes—are those bulky prescriptions overburdened with coarse aromatics and deadly sweet with syrups and such, which lie like wormwood on the already oversensitive stomach of an invalid. It is my experience in dispensary work that the

presumably offensive mixtures as of gentian and soda—invaluable for simple gastric atony—and quinia with muriatic acid are not so much objected to by the patients as by the mothers who surreptitiously taste them.

It may be conceded, then, that simple bitters are not disrelished by children as the experiences of the Dispensary Physician testify. We give here and at the Children's Hospital large amounts of gentian and soda, nux vomica and soda with very little protest. The bulky nutrients as cod oil and maltine, or the Trommer's extract is more troublesome, yet again not extremely so to younger children. Cod oil is of universal value and I think the best way to render it acceptable is by means of a good, freshly made emulsion. It is rare to find children who cannot learn to take this—and of its value in most of the depressed states of nutrition too much can not be said. We may in the future get some other fat, or some other alterative which will do as well but it has not yet been demonstrated. The best form is a cold pressed oil from freshly selected livers. The difference between this and inferior oils, both in taste and efficiency, cannot be overstated. This kind can always be given straight. I devised a very economical and handy form of emulsion which my assistants use much. In an eight ounce bottle six ounces of oil are put, the mother adds to this one raw egg, one tablespoonful of whisky and fills the bottle up with glycerin. The whole is then thoroughly shaken and kept in a cool dark place. It is agreeable and well retained.

The malts come next in value. The syrupy kind like Trommer's extract is better now than it was when so very thick and tenacious. This is not so bad mixed with water and may be used as treacle upon rice or bread when it serves a direct turn. Fluid malts are scarcely fit for infants, but in feeble children of 10 years or more "Gunniess stout" serves a useful purpose taken with meals—far better for young or old than the average preparations. Dry malts are useful—Horlick's dry malt, Mellin's food, malted milk, etc., only they are rather laxative.

The digestive ferments I have discussed elsewhere.[1] They serve not only to help the feeble digestion but with their aid can be made some very palatable dishes. The digested foods, as peptones, sarco-peptones, peptonoids, etc., admirably supplement a narrow diet; they are well given between regular feeding, or afterward to aid digestion, or upon these for a time a child may well subsist. Be careful to get back as soon as possible to well prepared ordinary, savory and customary food. Upon this alone is the balance of nutrition to be kept well poised and suitable progress to be made.

But to return to drugs, I find that children can be readily taught to swallow small pills, especially when urged to do so as a feat. Many nice triturates are made by Fraser, Wyeth, Campbell, and others, not only in the form of single drugs but in happy combinations, and these are not only convenient for the mother, but satisfactory for the child. For instance the good trio of iron, quinia and strychnia is far more easy to measure by one or two small pellets, than by a "teaspoonful" of elixir to which water need be added, not to mention tears and protestations which ensue. The average woman makes ten times the fuss over a bitter dose like this than would a child.

But there are no limits to the voluntary advice to be had of the Manufacturing Chemist on the rapidly growing subject, each one of whom makes a better article than the other as a matter of course.

The "Bürggrave dosimetry" is very justly gaining ground in the confidence of leading men. By these little quiet unobjectionably tasted pellets or granules a very accurate dose of the best alkaloidal substances can be neatly and accurately administered. These are most convenient to dispense, a change can be made on the instant the need for one drug has ceased, and for ordinary emergencies the physician can carry with him enough to use at once. The certainty in the dosage is far in advance of the average druggist who too often functionates as a confectioner and

[1] Medical and Surgical Reporter, June 3, 1893.

cigar dealer and almost always peddles soda water, depending for his largest sales upon Patent Medicines.

Many firms are springing up all over the country for the purpose of manufacturing these pellets, granules "diurnules" or dosimetric "grains," etc., indicating that their value is coming to be widely appreciated.

THE TREATMENT OF BURNS.

By Thomas S. K. Morton, M. D.,

PROFESSOR OF SURGERY IN THE PHILADELPHIA POLYCLINIC.

It is strange that with the almost universal application of aseptic and antiseptic measures to other classes of injury, burns and scalds are still largely subjected to treatment by methods long antedating the Listerian doctrine. Nevertheless, these principles are easily applicable to most cases of injury by heat and the results obtained are generally as satisfactory, when compared with those derived from older methods, as are the effects of asepsis in other injuries. In what follows it will be my endeavor to point out a method by which these ends can be satisfactorily secured.

Burns and scalds if of any considerable area are attended by much shock and very low temperature. The paradoxical complaint of those severely burned is of intense cold. This is often, but not always, accompanied by agonizing pain. This shock should be relieved by the usual warm external applications and by the hypodermatic administration of such agents as atropia, digitalis, and brandy. Pain in this stage can best be relieved by subcutaneous doses of morphia; particularly should this agent be freely given in those cases where the burns extend over more than two-thirds of the body and death can be postponed but a few hours. In certain cases, after reaction from shock is complete, and pain remains severe, it is well to induce full anesthesia while a thorough primary dressing is applied to all the injured parts. While under the anesthetic the patient must be kept as warm as possible and but a single part exposed for dressing

at a time. In fact, this should ever be a rule in treating large denuded areas, that chilling and internal congestions from the very rapid radiation of heat which takes place from such raw surfaces may be avoided.

For the pain of less severe burns nothing is so efficient as dusting the parts thickly with bicarbonate of soda and upon this applying a plain gauze dressing wrung out of warm water. To preserve the required moisture of this dressing rubber or gutta-percha tissue should be bound upon the outside. This dressing should be left on but a few hours or a day at the outside, when it should be replaced by some application which will render the parts sterile and maintain them as nearly as possible in that condition. Or, if it is desired to at once proceed with the final dressing, a strong solution of the soda may be applied by immersion of the parts, or placing upon them of mops of absorbent cotton wrung out of the solution. Application by the same means of two per cent. solution of cocain also answers this purpose very well. It is, however, but rarely necessary to apply either the soda or cocain as most burns when they reach the surgeon have passed the acutely painful stage, or have assumed an angry suppurative condition from home treatment. In these latter cases, as well as in all where the pain is not very acute, the carbolic bath to be mentioned in connection with the dressing will exert ample analgesic effect to produce comfort.

When pain has moderated and shock has disappeared, the following is my customary procedure. All detached fragments of skin or other tissue are carefully dissected away, and the covering of any blebs is likewise removed. The parts are then immersed or bathed for ten minutes in a two and a half per cent. solution of carbolic acid. This accomplishes a double purpose: the burn and its surroundings are thoroughly sterilized and the exposed or irritated nerve ends are benumbed into comparative insensibility. The carbolic solution has the additional advantage of sterilizing any fatty mattters that may be upon the skin and extends its antiseptic action down into the sudoriparous and fat glands. If any portions of clothing or other material adhere firmly

to the burned surfaces it is well to allow them to remain until thrown off upon the dressings. The soaking in carbolic solution will render all such sterile.

The injured regions are next subjected to a spray of full strength peroxide of hydrogen solution. This, with all detritus arising from its action, is washed away with salt solution (one drachm of common salt to the pint of water). The parts are now covered in completely with strips of Lister protective, which should extend for half an inch upon sound skin in all directions. If extensive areas are to be thus covered and expense is an object, gutta-percha tissue may be sudstituted for the Lister silk protective, but the latter is far superior. Either of these protectives should be immersed for some moments in the carbolic acid solution before application. A copious dressing of sterilized gauze should next be neatly applied so as to well overlap the edges of the protective strips and over this a thin layer of absorbent cotton is bound with moderate compression. If the burns have become very septic it is well to apply the gauze wrung out of 1-4000 bichloride solution and cover the dressing in with rubber or gutta-percha tissue to retain it in a moist condition. In either case the dressings should be renewed not later than every second day. Sometimes daily dressing of an originally very septic burn will be necessary.

Thorough spraying with the peroxide of hydrogen solution (diluted if its full strength application gives rise to pain) washing with salt solution, reapplication of the protective strips, gauze, and cotton, constitute the necessary steps in redressing until cicatrization is complete or the surfaces are granulating and ready for skin grafting. Bathing with the carbolic or 1-2000 bichloride solution may also be necessary until asepsis is perfect. Any sloughs that may form in the process of healing are apt to separate very slowly under antiseptic conditions, but their removal may be hastened by dissecting them out (cutting a little within the edges of the slough to avoid pain and hemorrhage) or the sphacelus may be rapidly digested and liquefied by swabbing its surface

daily with glycerole of papain immediately before applying the protective slips.

Under the dressing above described healing almost invariably progresses without pain, odor, excessive contraction or hemorrhage, and the development of complications such as suppurating glands, cellulitis, erysipelas or tetanus have become all but unknown. If extensive surfaces are involved, the patient is not exhausted by pain and excessive suppuration; fever is absent, septicemia does not supervene and the kidneys and other internal organs are not subject to so great an extent to that tendency to inflammation or congestion which is so characteristic of extensive septic burns. Reparative materials are largely conserved; newly formed epithelial and other cells are not torn away at each dressing and the organizing tissues are kept in a condition of asepsis with moderate moisture which is so essential to rapid healing; without excessive production of that fibrous cicatricial material which is responsible for the disfiguring and often disabling contractions which have been such constant sequels of burns.

Contraction is then much less extensive when burns have been treated antiseptically, but very large denuded areas in the neighborhood of joints, the neck, breast or small surfaces near the mouth or eyes are still liable to produce sufficient contraction to be undesirable. Much the same line of treatment is to be maintained until the entire surface is covered by healthy granulations, and epithelium has commenced to form on it. If then it becomes apparent that undesirable contraction will be inevitable, if the natural process of healing is permitted to continue, Theirsch's operation of skin grafting must early be resorted to and the denuded surface covered in as much as possible with new skin. Fortunately in this procedure we have an addition to the means of treating burns by which in many cases the horrible results of contraction can be entirely or partially obviated.

Where burns are situated near or in the flexures of joints, whether grafting is resorted to or not, splints should be

applied to resist the tendency of the parts to assume a flexed position during healing. When several fingers or toes are burned each one should be dressed separately, that the cicatrizing surfaces may not come in contact and permit two or more of the digits to grow fast together; here grafting is often of great utility.

In burns or scalds about the genitalia, nates and portions of the face or ears the protective and gauze dressing cannot always be well applied or kept in position. If it slips and permits the parts to become dry or adherent to the gauze or bandages more harm than good will result. In these regions we may be forced to rely upon some form of ointment. But even under these circumstances, washing with carbolic or salt solution and spraying with the peroxide solution, with frequent change of dressings will maintain the parts in a state of very fair disinfection and largely abate odor, suppuration and fibrous cicatrization. The preparation that has given me the most satisfaction for this purpose is the benzoated oxide of zinc ointment spread thickly upon lint, dusted with iodoform or aristol and bound on with the usual thin layer of absorbent cotton. Or a mask of the spread and dusted ointment can be cut and simply laid upon the face with openings for the mouth, nose and eyes. Of the two dusting powders mentioned aristol is much to be preferred because of its more active antiseptic and anesthetic powers as well as its lack of odor.

In general burns, an air or water bed is almost essential for the comfort of the sufferer; it also prevents pressure upon denuded parts and the formation of bedsores.

SUTURING THE TENDO-ACHILLIS IN THE CORRECTION OF DEFORMITIES OF THE FEET.[1]

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All remedial measures, to be ultimately and progressively

[1]Abstract of a paper read before the Pennsylvania State Medical Society.

efficient, must have for their object not alone removing the appearance of the deformity by lengthening or shortening of tendons, but it is equally essential that the resulting strength of the tendon must be equal to the demands to be placed upon it.

The great importance of the tendo-achillis in locomotion, as indicated by its breadth and strength as well as by its mechanical function, demands that its strength and general utility after operation should be increased rather than lessened, and that the correction of the external appearance of a deformity should be secondary to a full re-establishment of the mechanical functions of the part.

The subcutaneous operation for lengthening the tendo-achillis, while it has had a brilliant career in assisting in the correction of deformities of the feet that were previous to its adoption corrected, in part only, did not always fully meet the requirements.

The gaps between the divided ends of the tendons were filled by ultimate fibrous union which yielded when there was full contractile power in the gastrocnemius and soleus muscles, and only failed to yield when those muscles were largely inactive from previous disuse.

The probability of the disturbance of the repose essential to a perfectly solid union was clearly illustrated by a patient while I spliced the tendo-achillis under the local anesthesia of cocaine, the contractions of the muscles increased the separation of the ends, a full inch. Such a constant or voluntary contraction must make the uniting band attenuated.

It is impossible to disassociate the shrunken, atrophied, and often, useless calf with the possibility of its being assisted in its retrograde, by the weakened condition of the tendo-achillis divided in the often hap-hazard subcutaneous method.

If there was, prior to division of the tendon, an atrophic or enfeebled calf, analogy would indicate that favorable conditions would promote its growth and development

until a full or approximately full usefulness could be obtained.

That the new band of union uniting the tendon is capable of stretching has become well established in cases that have required open section at some subsequent time.

In a large number of relapsed cases that have required subsequent division of the tendo-achillis, it has been found that it was practically impossible to find a tendon.

The inaccuracy and, therefore, uncertainty of the results to be obtained by simple subcutaneous division of tendons made the reception of methods of accurately elongating and shortening tendons, by splicing, a boon that has been rapidly seized by progressive operators.

Although asepis prepared the way, surgeons were not ready to take the advanced step of suturing tendons until time had elapsed to prove the benefits to be derived from the simple section through an open wound.

In 1890, (November 29th) Dr. W. W. Keen acting on a suggestion of Dr. S. Weir Mitchell, performed the operation of isolating the tendon of the ring finger, splitting it longitudinally; and dividing one half at each end of the fissure, so that the one would remain attached to the approximal and the other to the distal end of the tendon. The split portions were then carefully sewed together where they overlapped. (*Transactions of the College of Physicians*, 1891, p. 67.) In the discussion following the report of Dr. Keen's case, I spoke of the applicability of the method to the shortening of tendons.

By one of those curious coincidences, of which there are so many illustrations, the desire for better methods has induced men in different parts of the world to arrive at precisely the same ends without the slightest knowledge of each other's work. In the *London Lancet* for July 18, 1892, there appeared a paper by William Anderson, F. R. C. S. entitled "Contractions of the Fingers and Toes: their Varieties, Pathology, and Treatment," in which he describes the same operation performed, October 18th, 1889.

On June 10, 1891, I resorted to the method in a case of

paralytic talipes calcaneus, and have since that had occasion to employ it four times, although there are no published records. In my doubt as to whether this method had been tried to shorten tendons, I wrote to Mr. William Anderson from whose letter of April 4, 1893, I quote—"The application (of the method under consideration) to tendon shortening is certainly yours. I expect to receive a suitable case for testing it in the course of a few days and should I not be disappointed, I will let you know the result."

It is clearly apparent that the essential feature of the methods described is the suturing together of the splice so that the elongation or shortening should be of a definite amount. In the subcutaneous methods there has been no attempt as far as I know to suture tendons, and shortening cannot be accomplished subcutaneously.

INSANITY AND QUASI-INSANITY IN CHILDREN.[1]

By Charles K. Mills, M. D.

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Mental disease in children is not very common, neither in a few of its types is it very rare. It has received but little discussion from writers on psychiatry and pediatrics, but it is of sufficient practical importance to claim the attention of general practitioners as well as specialists. Cases both of juvenile insanity, and what I would term quasi-insanity, are confused with other affections and conditions, as with hysteria, with bad temper, with vice, with the delirium of fever, with meningitis or brain tumor, and even with surgical affections.

Mental disease in childhood is, as a rule, limited to a few forms, and a little consideration will show that this might be expected; as for the full development of certains types of insanity it is requisite that the faculties of the mind

[1] Abstract of a paper read before the State Medical Society of Pennsylvania.

should themselves be evolved to a certain point. In a strict sense, the existence of mental disease presumes the previous presence of mind; hence some would exclude from insanity proper, idiocy and imbecility due to congenital structural defect, although for practical purposes this is not necessary, as mentality is supposed to be the inherent attribute of the race. Paranoia, or primary delusional insanity, will not in its typical forms be observed in children under puberty; but abortive or imperfectly developed paranoia is not an uncommon juvenile affection, and some of its varieties I shall include under quasi-insanities. Some children are pursued and worried with imperative conceptions, insistent ideas, and morbid impulses and propensities; and, after all, as these are but delusions in the making, if they have any systematization in their fabric, and are not merely the ebullitions of mania or melancholia, the child is suffering from a form of incomplete or quasi-paranoia. I thus refer to paranoia at the outset to emphasize the fact that insanity in children is simple in kind, in accordance with the simplicity of the mind itself.

The *varieties* of true insanity most commonly observed in childen, are (1) melancholia; (2)mania; (3) choreic insanity; (4) hysterical insanity; (5) cataleptic insanity or cataleptoid insanity; (6) epileptic insanity; (7) moral insanity, and (8) certain quasi-insanities—forms of morbid fear and of morbid doubt, perversion and impulse.

It is always necessary to distinguish between monomanias or paranoias and melancholias; but, genuine uncomplicated melancholia is undoubtedly seen in children. Sometimes halluciations are present with the mental depression and sometimes not. It seldom assumes the extreme form which is so frequently observed in the adult; but now and then a true agitated melancholia or melancholic frenzy is observed. Ordinarily a child suffering from melancholia will be be blue, sad, anxious, weeping, restless by day and by night, and wanting in the liveliness and changeability of children.

Suicide in children is not commonly due to melancholia,

although it is occasionally, and in these cases an inherited taint is often present. Children like adults are now and then driven to melancholia and suicide by want of care and ill treatment.

Mania is, on the whole, the most frequent form of juvenile insanity; but, as a rule, it is less tenacious, less violent and more curable than in the adult. Much has been and much might be written about it, but I shall here limit myself to a few remarks on the somewhat frequent occurrence of true mania in children who are imbecile or partially imbecile, or who suffer from some form of cerebral arrest which gives rise to spastic palsies, a subject of considerable practical interest.

Some understanding of the subject of *moral insanity* in children is of great importance to the general practitioner, *who is almost invariably first consulted by anxious parents* about the unfortunate victims of these disorders. It is probably better that a distinction should be made between moral imbecility and moral insanity in children as well as in adults, although commonly this is not done. The subject of true moral imbecility is the victim of heredity, and his condition is manifested as soon after birth as it is possible to recognize deficiencies in the moral sense through conduct. I have become only too familiar with this class of cases, presenting chiefly moral symptoms, cases which must be recognized as the subjects of disease, and the special care and treatment of which are forced upon us by every scientific and humane consideration. Such children are incorrigible to reproof and training. Punishment has no effect upon them, or only will be heeded to aid their escape from pressing annoyance or discomfort.

Much difference of opinion has risen with regard to the exact nature of such cases. One contention is that a case of pure moral imbecility or moral insanity does not exist, and that close investigation will always show some intellectual disorder. The difference is probably one of terms. Recognizing such words as morality and immorality, as expressing distinct ideas, no reason exists for not speaking of moral departure or moral disease.

In moral insanity as distinguished from moral imbecility, the patient has apparently been born in full possession of the so-called moral sense as well as of the intellect. The perversion of the moral or affective life has been brought about by injury, disease, or vicious habits. Extraordinary preversions of character have been recorded in considerable number as due to acute fevers in children, as after scarlet fever and malarial fever.

In most genuine *imbecility* cases, education and philanthropy, kindness and cruelty, the Sunday School and the reformatory, the asylum and the penitentiary, will equally fail. Some of the most practical and most experienced authorities believe that education in its ordinary meaning should be largely withheld from this class.

Hack Tuke says of them: "The early detection of these cases is not difficult, they should be subjects of life-long detention, their existence can be made happy and useful, and they will train into comparative facility and harmlessness if kept under a uniform, temperate and positive restriction. The school-room fosters the ill we would cure; in teaching them to write we give them an illimitable power of mischief, in educating them at all except to do physical work, we are adding to their armament of deception and misdemeanor." As Kerlin puts it, we should refuse them the ordinary routine of education because "we believe that in educating moral imbeciles we are training experts for the later role of so-called moral insanity."

Quasi-Insanities.

In a philosophical sense sanity and insanity are relative terms whether applied to children or adults. Certainly not a few may be properly regarded as on the borderland between mental health and disease, and these are perhaps best classed as examples of partial or quasi-insanity, forms of mental diseases which in a certain manner and degree have the attributes of insanity. Quasi-insanity better expresses the idea than such terms as, partial or pseudo insanity, or borderland cases, for the prefix "quasi," as used

in English, indicates that the thing spoken of resembles or has the attributes of something without being the latter in the full sense. Some of the best examples of quasi-insanity are to be seen in those suffering from those affections which are shown by morbid doubts and morbid fears. They are psychoses, which lead sometimes to oöphorectomies and laparotomies, to uncalled for operations and treatments of various sorts on all parts of the body. They are abortive or imperfectly developed mental disorders. Sometimes they are as transient in duration as they are limited in phenomena; but in other instances a few elementary deficiencies or disturbances may persist without much change or increase, through life.

They are sometimes observed among young children, although more common after, than before the period of puberty. Their most striking illustrations occur in those who have not been subjected to any physical or mental strain sufficient to break down a healthy organization. Persistent fear of the monomanical type occurring in children is rarely due to overwork at school as is frequently supposed. The cause is generally in the child's progenitor or progenitors.

Not infrequently several of the so-called varieties are present at the same time, in the same case, and some cases belong to a class which has been well described as pantophobia, or fear of everything.

It may be necessary sometimes to separate a form of *juvenile dementia the result of inherited syphilis* from idiocy and imbecility, whether of syphilitic or other origin, which may commonly be done by the fact that the dementia usually comes on after the child is four or five years old, and therefore when the mental condition has been determined not to have been that of idiocy.

Masturbational Insanity as occurring both in children and adults has been both over and under-rated, but on the whole, the tendency has been to the former rather than to the latter. Some alienists almost deny that this vice is ever the true cause of insanity, holding that it, like the insanity is due to the neuropathic state of the individual, or that at

the most it is merely a concomitant or an aggravating cause. My experience leads me to believe that while, as is known to almost everyone, the vice is extremely common, especially among boys, it only in rare instances is the true cause of mental disease, but that these instances, though rare must be recognized.

Favorite Formulas.

Peroxide of Hydrogen and Iron.—In reply to an anonymous criticism of the chemical character of a prescription written and recommended by Prof. S. S. Cohen in an article by him which appeared in the April number of the Philadelphia Polyclinic, I desire to submit a few tests which I think will prove the criticism or claim groundless.

The prescription in question was as follows:

℞	Tr. Ferri Chloridi	f℥ij
	Acidi Phosphorici Diluti	f℥iij
	Glycerini	f℥vi
	Hydrogeni Dioxidi q. s. ad.	f℥iij
	Mx. ft. Sol.	

This prescription was claimed to be a chemical impossibility, such statement leading to this note.

It may be supposed that incompatibility exists between the solution of hydrogen dioxide and the tincture of chloride of iron, and that the latter which is a ferric salt is reduced to the ferrous salt being directly affected by the former, or it may be claimed that the solution of hydrogen dioxide is decomposed with the liberation of oxygen. The latter result would at first seem the most probable and if such be the case with chemical reaction, the time and character of reaction must be noted.

If the oxygen is at once liberated on the addition of the tincture of chloride of iron the prescription of course is valueless. I concluded to make some tests by the first of which I could determine which, if any, were the reacting ingredients. The results were as follows.

To the tincture of the chloride of iron I added the dilute phosphoric acid and then added the glycerin and solution of hydrogen dioxide in the order named with thorough agitation. A slight effervescence was noticeable with a gradual generation of heat, the latter with a very slight deepening of color was of short duration. The mixture cooled quickly and assumed a pale yellow color, perfectly transparent.

It was evident that a slight reaction had taken place from the noticeable effervescence and generation of heat. The next step was to find the reacting ingredients which by experiment proved to be solution of hydrogen dioxide and tincture of chloride of iron. The alcohol (contained in the Tr. Ferri Chloridi) and the glycerin either alone or together, had no action upon the solution of hydrogen dioxide; but the tincture of iron when added to the latter gave the effervescence noted above, and clearly indicated that these two were the reacting ingredients.

It was proven some time ago by thorough investigation, that iron salts were affected somewhat by hydrogen peroxide, but only when in certain proportions and after long standing. The tincture of chloride of iron used, a ferric salt, was not affected in the least during the entire test. The effervescence indicated the liberation of a gas which proved to be oxygen as suspected, by causing a spark on a lighted taper to burst into a flame.

I did not determine the volume of oxygen evolved, but at the end of each of four days tested a portion of the same mixture with permanganate of potassium to ascertain how long it would retain and liberate oxygen. The gas was evolved freely each day and not until twenty-four hours later did the test fail.

This proved that the prescription as compounded retained oxygen for ninety-six hours, and if this was desired by the physician and the other ingredients were not in the least affected, the only possible loss was the small quantity of oxygen which was liberated when the prescription was compounded.

For further information regarding the effect of hydrogen

peroxide upon iron salts I refer to the article of Prof. F. X. Moerk, of the Philadelphia College of Pharmacy which was published in the *American Journal of Pharmacy*, March, 1893.

FRANK ALLEMAN.

PHILADELPHIA OBSTETRICAL SOCIETY.

Large Ovarian Cyst.—Dr. E. P. Davis reported a case of a woman aged 55 of extraordinary muscular development, in whom enlargement of the abdomen had been going on for three or four years and was being treated by diuretic mixture and purgatives for dropsy. She was brought to the Polyclinic Hospital and an exploratory incision showed the presence of an immense ovarian multilocular cyst, comparatively free from adhesions. The fluid contents were removed slowly and then the remaining mass was cleared away as rapidly as possible. The pedicle arose from the right ovary and was so small as to scarcely require ligation. The patient partially collapsed during the removal of the solid portion, but was relieved by inhalations of oxygen, the use of electricity, and injections of stimulants. She reacted, but her pulse remained rapid and she died six hours later in sudden syncope. The total weight of the solid and liquid portions of the tumor was 160 pounds.

The practical interest of the case lies in the question whether it is possible to remove so large a mass, producing such a change in circulation without causing fatal syncope.

Dr. Charles P. Noble thought the practical lesson to be drawn was that tumors should not be permitted to attain such an immense size, when they can be taken out with such safety when small.

Dr. Joseph Price thought there was scarcely any advantage in the slow removal of a cyst of that character, as it prolonged the anesthesia, saturating the patient with the anesthetic and depressing the temperature. In such tumors, rapid operations, small incisions, and transfusion with distilled water will give best results.

Dr. M. Price had learned from Dr. Davis that after the removal of the tumor, the intestines did not come down into position so as to cover the spine. When this was the case, he had always seen a fatal result. It showed such distention by pressure that no modifications of the operation would have saved the patient. She had been condemned by delay.

Dr. Harris A. Slocum suggested for such cases the filling of the peritoneal cavity with a sterilized saline solution, which would temporarily replace the former pressure and be gradually removed in the course of a few days.

Removal of the Coccyx for Congenital Cyst.—Dr. E. P. Davis reported a case, in which abscess over the coccyx accompanied by pain in the sacro-coccygeal joint occurred in the eighth month of pregnancy. Three months previously a similar swelling had appeared, but was dissipated without treatment. The abscess was opened, curetted, and packed with gauze and recovery followed. Five months after confinement she again complained of pain in the coccyx, and pressure gave rise to an indistinct grating sensation and acute pain. The coccyx was removed and the articulations between it and the sacrum found slightly roughened, but without evidence of necrosis or suppuration.

The operation gave complete relief. He believed the explanation of the case was to be found in the existence of a congenital cyst; remains of the foetal medullary canal.

Dr. J. M. Baldy had recently removed the coccyx for pain. In his case, however, there was a history of fall and it was found fractured a quarter of an inch from the sacrum and turned in toward the rectum.

PHILADELPHIA ACADEMY OF SURGERY.

Large Ovarian Tumor.—Dr. W. W. Keen reported the removal of an ovarian tumor weighing 111 lbs. in a child of fifteen whose weight was 68 lbs.

The enlargement of the abdomen commenced about two and one-half years before and in the last eighteen months

there had been repeated tappings. At the time of the first tapping by another operator, the diagnosis was made of a solid probably malignant tumor, connected, most likely with the liver, omentum, and ovary. An exploratory incision was refused.

At the removal, the tumor was found to spring from the right ovary, with a pedicle of only two and one-half inches broad and moderate adhesions to the abdominal wall.

The case taught the value of an exploratory incision. Had this been done, when the tumor had been smaller, the prognosis would have been more favorable and the patient saved a year and a half of needless suffering.

Ileo-colostomy.—Dr. W. W. Keen reported the case of a woman, aged 53, suffering from intestinal obstruction, adominal pain, frequent vomiting, and some distention. Exploratory incision showed a hard mass in the hepatic flexure of the colon. It was decided to make an artificial anus for this purpose the lower end of the ileum was brought into the abdominal wound and held there with a rope of iodoform gauze, and, on the third day the bowel was divided down to the gauze by the Paquelin cautery.

Her condition having greatly improved and the neighboring skin being excoriated by discharges through the artificial anus, ileo-colostomy was done two months after the first operation. The metal button devised by Dr. J. B. Murphy was used. It consists of two portions which are introduced separately into the distal and proximal ends of the bowel, and are fastened by simply pushing together, but cannot be separated except by unscrewing. A plate pressed upon by a spring keeps the intestinal surfaces in close contact until the whole included portion sloughs and comes away with the button.

This occurred on the 12th day. The patient did well for six weeks and then died suddenly from perforating ulcer of the ascending colon.

At the post mortem the presence of malignant disease was not demonstrated,although there was pouching and great

thickness of some portions. In the forty-seven days that the patient lived after the operation the opening of the ileum into the colon had contracted to one-half its original diameter. This suggests the query whether the contraction would not have kept on until the anastomosis was rendered useless. Whether end to end anastomosis would be followed by similar contraction is an open question.

Notes and Comments.

New Jersey State Board of Medical Examiners.—At their recent examination this board asked the questions given below. Two hours were allowed for the answering of each of the four sets of questions, the answers were written, and the lowest general average to pass the examination was 80 per cent. In addition to these subjects all graduates of less than five years standing were required to pass examinations on chemistry, anatomy, histology and pathology, physiology and diseases of the eye, ear, nose and throat.

MATERIA MEDICA AND THERAPEUTICS.

1. What is glycerin, and what are its therapeutical uses?
2. Describe the symptoms of poisoning by belladonna or its alkaloids.
3. What are the different routes by which medicines may be introduced into the circulation.
4. Name some of the different alkaloids.
5. Describe the action of cocain and the action of atropin on the organ of vision.
6. Name the preparations and doses of magnesia.
7. What is the physiological action of ammonia and what are its therapeutic uses?
8. What remedies would you use in a case of lead poisoning?
9. What remedies would you use in a case of acute alcoholism?
10. Write a prescription to be used as a hypodermic injection of sulphate of morphia.

PRACTICE OF MEDICINE.

Differentiate:

1. Variola from typhus fever.
2. Catarrhal from croupous pneumonia.
3. Spinal meningitis from spinal hemorrhage.
4. Hypertrophy from dilatation of the heart.
5. Cirrhosis of the liver from amyloid disease thereof.
6. Diabetes insipidus from chronic interstitial nephritis.
7. Œdema glottidis from (1) catarrhal and (2) membranous croup.
8. The vomiting of chronic gastritis from that of ulcer of the stomach.
9. An uremic convulsion from (1) insolation and (2) a paroxysm of epilepsy.
10. Acute peritonitis from (1) acute gastritis, (2) acute enteritis and (3) intestinal obstruction.

SURGERY.

1. Give varieties of luxations at the shoulder joint?
2. What symptoms may be observed in penetrating wounds of the chest, right side?
3. Give radical cure for hydrocele?
4. Give varieties of treatment advised for phlebitis?
5. Describe femoral hernia and the mode of reduction?
6. What are the signs of fracture of the surgical neck of the femur?
7. What is retro-pharyngeal abscess? Causation? Treatment?
8. What is an acute abscess? How is pus formed?
9. What is Lipoma? Myoma? Angioma? Lymphadenoma? Chondroma?
10. Treat a case of foreign body in the larynx or trachea?

OBSTETRICS AND GYNECOLOGY.

1. Give the varieties and treatment of a case of placenta prævia.
2. Give the treatment of post-partum hemorrhage.

3. Give the differential diagnosis between ascites and pregnancy at the sixth month.
4. Give the symptoms and treatment of cysts of the ovary.
5. Under what circumstances would you rupture the bag of waters?
6. Describe how a child is nourished previous to its birth.
7. Give the mechanism of a vertex presentation.
8. How can you distinguish a hand from a foot presentation?
9. Under what circumstances would you use a tampon, in a case of abortion?
10. Give the differential diagnosis between an ovarian cyst and an extra uterine pregnancy.

Dr. Oliver Wendell Holmes must smile at some of the discussions of puerperal infection and antisepsis if he reads them, and must feel the medical profession rather slow to perceive a long evident truth.

His essay on the contagiousness of puerperal fever, in April, 1843, reproduced in the Annals on Gynecology and Pediatry for June, 1893, seems now so clear, reasonable, and conclusive, that it is hard to understand why we have been so long in learning its lesson.

Current Literature.

Significance of the Excessive Secretion of Uric Acid.—Dr. C. A. Herter (*New York Medical Journal*) concludes from study of 163 cases that the deposition of amorphous urates in a sample of 24 hours urine is pretty reliable evidence that uric acid is in excess, and the probability of this is increased if the density of the urine is less than 1.025. Unfortunately, we cannot conclude that urine which does not deposit urates does not contain too much uric acid.

The early separation of uric acid as such from the urine however, gives no real reason to think that it is present in actual excess. Every acid urine protected from putrefaction will deposit most of its uric acid in time. As a normal

standard, is taken urine in which the proportion of uric acid to urea is about 1 : 50. When it rises to 1 : 40 uric acid is to be regarded as being excreted in excess. At 1 : 35, the excess is to be considered large; 1 : 30 is a very great excess, and higher than 1 : 20 is never found.

He regards an excess of uric acid as commonly due to disorders of digestion. Acute disorder of gastric or intestinal digestion temporarily increases it. A very large meal, the use of alcohol, or a large amount of sugar do the same thing. He regards uric acid as formed by the breaking down of neuclein largely in the liver and spleen. Its excess does not give us information about a particular morbid state or diathesis, but rather indicates the existence of a defect in general nutrition that is perhaps, commonly induced by the existence in the blood of toxic substances formed during the process of digestion. This being the case, such terms as "uric acid, diathesis," and "lithemia," as commonly used, are incorrect and misleading.

It does not seem likely that uric acid has much to do with chronic nephritis, since it appears to be rapidly and readily excreted by the kidneys. An increase of uric acid in the urine does not mean that the patient is suffering from the effects of an excess of it in the blood. For patients showing such a tendency, the wisest plan is to continue a mixed diet, in which all classes of food are represented, allowing as much starchy food as is consistent with the avoidance of uric acid excess.

The amount of uric acid excreted gives an objective basis for deciding the value of the line of treatment pursued. If a certain course reduces it to normal, it may be regarded as satisfactory. If, after several days, it fails to do this, it should be changed. It is extremely doubtful whether drugs given to eliminate uric acid really do so. Herter's own experience with piperazine led him to think that the trivial increase in uric acid reached after its use was to be attributed to slight disorders of digestion. He believes we have been attaching a too serious significance to uric acid in its relation to disease, and that the view that it is in any sense a factor in

disease, except in a purely mechanical way is destined to die out wholly.

Parasitic Nature of Cancer not shown.—Professor Heneage Gibbes, M. D., of the University of Michigan (*American Journal of the Medical Sciences*) has gone carefully over the subject of the appearances supposed to indicate the presence of micro-organisms in cancer, and has studied the subject by trials of different methods of hardening and by experiment on the lower animals. He concludes the appearances found in a small percentage of glandular carcinoma are caused by unsuitable methods of preparation. The large majority show nothing which can be considered parasitic when hardened by any method, which, when applied to a normal tissue will give a typical normal section.

Book Notices.

A CHAPTER ON CHOLERA FOR LAY READERS: History, Symptoms, Prevention, and Treatment of the Disease. By Walter Vough, Ph. B., M. D., Medical Director and Physician-in-charge of the Fire Island Quarantine Station. Small 12mo. 110 pages. Philadelphia: The F. A. Davis Co., 1893.

This little work is a successful attempt to bring a portion of the truths of medical science within the grasp of the more intelligent part of the community. It is one that the physician can heartily recommend to the inquiring public, as containing knowledge that is accurate and of practical interest. And, indeed, at this time when he is likely to be called upon for information of this kind in ordinary conversation, the physician himself would find a perusal of its pages an excellent way of shaping his own knowledge for ready transmission to others.

It contains the matters looking to general prevention that are of practical importance when the cholera is expected or has appeared in a community, knowledge that happily, is likely to be in much greater demand in this country than any with reference to the actual diagnosis and treat-

ment of cholera cases. And, even with reference to diagnosis and treatment, the work includes pretty much all the acts that can be regarded as well established and generally agreed upon.

The work has been brought out in good type and very convenient form. It contains a couple of colored plates; one of them showing cultures of the cholera and of the Finkler-Prior bacilli in different stages of development; and the other a cover-glass preparation of the cholera bacillus. There are, also, wood cuts representing other preparations of the same germ.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. Edited by Charles E. Sajous, M. D., and Seventy-seven Associate Editors. Illustrated with Chromo-Lithographs, Engravings, and Maps. Five volumes, Octavo. Philadelphia: The F. A. Davis Co., 1893.

The volumes of this well known work for the current year are fully up to the standard of their predecessors. Such a work, impossible at any previous stage in the development of the medical profession, well reflects the enormous activity in the field of medical literature to-day.

Among the colored plates that will attract particular attention, we note maps indicating the distribution of cholera; a plate showing granulations of the blood corpuscles; sections showing the relative position of the dilated stomach, and representations of senile degeneration in the macula lutea.

Such a work is invaluable as a work of reference for those to whom the great medical libraries are inaccessible. It is pretty well established however that much reading will not take the place of thought; and, as a stimulus to thought such condensed, predigested mental pabulum as is offered in this work is not the most valuable.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, 1893. Octavo 300 pages.

This volume includes papers read at the meeting, and lists of members and officers of Constituent County Societies. Also reports from the latter, but the custom of furnishing such reports is "more honored in the breach than the observance."

THE

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APPENDICITIS IN CHILDREN.[1]

BY JOHN B. DEAVER, M. D.,

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This disease is one which occurs frequently in early life, and from similarity of symptoms is likely to be confused with the various intestinal disturbances peculiar to children. Its gravity is such that upon early recognition depends, in a great degree, the chances of recovery.

I desire to advocate the removal of the appendix in acute primary attacks as soon as the disease is recognized, where there has been no decided response to judicious medical treatment, and between attacks in all recurrent cases. I would group under the term appendicitis all inflammatory conditions of the right iliac fossa, believing that in so doing a clearer conception will be formed of the true pathological conditions present, and that a common treatment—that of early operative interference—will be adopted universally.

All cases of appendicitis may be classified under the following heads: Catarrhal, ulcerative, tubercular, and relapsing or recurrent.

History and Symptoms—The symptoms of appendicitis in its incipiency are not by any means definite in all cases. The onset is usually sudden—constipation is the rule rather than the exception. Pain is at first paroxysmal, resembling

[1] Abstract of a paper read before the Section on Diseases of Children at the Pan-American Medical Congress.

colic. It is referred to the umbilical and epigastric regions, and in seventy-two per cent. of all cases appears within twenty-four hours. Later it becomes continuous, and is localized in the right iliac fossa in fifty-four per cent. of all cases. Vomiting is present from the first, becoming uncontrollable if the case does not yield to treatment. The vomited matter consists first of the contents of the stomach, later of bile. Ordinarily the vomiting of stercoraceous matter is indicative of acute intestinal obstruction, yet we see stercoraceous vomiting in advanced and hopeless cases of appendicitis.

The tongue is furred and later in the disease becomes dry with the deposit of sordes upon the teeth. There is extreme thirst, with a temperature varying from 102° to 104° F., and a high pulse rate. The bowels are usually confined; it is, however, not uncommon to have the disease ushered in with diarrhea. The presence of sick stomach, diarrhea, and pain coming on suddenly, are suggestive of enteritis, the affection with which acute appendicitis in its incipiency is most likely to be confounded. As the affection advances the child frequently favors the affected side and lies with the thigh of the corresponding side flexed upon the abdomen. Frequency of urination is often a prominent symptom. Examination by palpation reveals general tenderness over the affected area, while the point of greatest intensity usually corresponds to the so-called McBurney point, providing the appendix occupies its most common position, arising from the posterior-internal aspect of the base of the cecum.

When general peritonitis is present early, as in the perforative variety of the disease, notwithstanding general abdominal tenderness, upon deep pressure a point in the right iliac fossa corresponding to the appendix can be made out which is much more painful than any other point in the abdomen. Palpation also detects very decided resistance offered by the abdominal muscles of the affected side. In many cases, an indurated mass is to be felt, which is circumscribed, or diffused, particularly in the direction of the linea alba and of the pelvis. Superficial percussion in the

early part of the disease yields negative information, while deep percussion, if the case steadily advances, will reveal dullness and later flatness. Deep rectal, as well as vaginal examination, I do not think of much diagnostic value, early in the disease at least.

Suppuration is not always readily detected, as fluctuation is difficult to elicit on account of the unyielding abdominal wall. Yet I have seen it well-pronounced many times. Edema of the overlying abdominal walls is of great diagnostic value as indicating the presence of deep suppuration. If, associated with the presence of a mass in the right iliac fossa, there are decided chills, or even chilly sensations with sweating, it is quite evident that pus is present.

Diagnosis.—The affections with which appendicitis is most likely to be confounded in children are enteritis, involving all the coats of the intestine (entero-peritonitis); acute mechanical intestinal obstruction; perinephritic abscess; abscess of the kidney (especially floating kidney), of psoas abscess: iliac abscess; abscess of the abdominal parietes; hip disease; hepatic and renal colic.

In enteritis involving all the coats of the intestine, the disease is ushered in by a diarrhea of a more or less severe type, in which the stools are watery and mucoid in character. This is accompanied by pain of a colicky nature referred to that portion of the abdomen corresponding to the situation of the affected coils of intestine, also by the absence of abdominal distention. Paralysis of the bowel occurs which results in distention. Diarrhea is now no longer present, but, on the contrary, absolute constipation with inability to pass flatus. Vomiting occurs, which, if the disease is not relieved, becomes stercoraceous. Ordinarily, there would be but little trouble in differentiating between this form of enteritis or entero-peritonitis and appendicitis if the symptomatology of the latter affection is borne in mind, in addition to what has been said about the physical signs elicited by careful abdominal palpation in cases of appendicitis.

In acute *mechanical intestinal obstruction*, the onset of the symptoms is more abrupt and severe than in appendicitis.

The pain, which is most intense, and at first occurs in exacerbations, is referred to the seat of the obstruction, or more commonly to the umbilicus, and not concentrated in the right iliac fossa, as in the case of appendicitis. When the disease is well established, there is absolute constipation with inability to pass flatus. Vomiting is an early symptom, which, if not relieved, becomes stercoraceous.

There is absence of fever in strangulation by bands, and in invagination unless the child survives until the invaginated portion of the bowel commences to undergo inflammation, which causes ulceration and affords nature a means of disposing of the intussusception and thus establishing a spontaneous cure. In invagination a movable tumor, the most common site of which is to the left of the middle line, but not always to be made out on account of the distention; while in appendicitis a tumor, if present, is fixed and always occupies the right iliac fossa, are important differential points. In invagination a discharge of blood and mucus from the rectum, and in many instances the presence of a tumor, may be detected upon making a digital examination of the rectum. With the development of peritonitis in acute intestinal obstruction there is a marked distention of the abdomen. Collapse is an early symptom in acute intestinal obstruction, while not so in appendicitis unless it be of the perforative or fulminative variety; but even then it is a later manifestation than in obstruction.

In *perinephritic abscess* the location of the swelling, the presence of edema in the loin, and the absence of bowel symptoms, are important differential factors. In many cases of perinephritic abscess the trouble is preceded or accompanied by the presence of pus as well as other abnormities in the urine, unless their origin is independent of the kidney, as when due to constipation, traumatism, etc. If a doubtful case should arise where it would seem to be impossible to differentiate, I would advise an exploratory incision in the loin before cutting through the abdominal wall anteriorly; this could not possibly result in harm, even if the perinephritic space be found intact, nor would it interfere in

the least with immediately cutting down upon the appendix. In the absence of urinary symptoms, *abscess of the kidney*, and particularly if it be one of a floating kidney, the differential diagnosis is necessarily more difficult.

In *psoas* or *iliac abscess*, if dependent upon bone disease, the onset is slow, with little or no fever, usually, though not always, accompanied by evidence of disease of the vertebræ, absence of pain, tenderness, and bowel symptoms.

In *abscess of the abdominal wall*, the movement of the swelling with the abdominal walls, the absence of intestinal symptoms, and the history of the case, should render differential diagnosis possible.

In *hepatic colic* the painful area is usually higher in the abdomen, radiating toward the shoulder, most severe over the region of the gall bladder, and usually followed by jaundice.

In *nephritic colic*, a history of previous attacks may often be obtained; the origin of the pain is deep in the upper loin, radiating in the line of the ureter, with retraction of the testicle, diminished urinary flow, with blood or pus, and a sudden termination of the attack.

Prognosis.—The age of the patient has a material effect upon the prognosis; the earlier in life it occurs, the less resisting power is exhibited by the patient. Sex does not seem to be a factor. Where an abscess forms and ruptures or perforation takes place, and the contents of the bowel escape and are unconfined by a wall of lymph, general peritonitis is rapidly established, terminating these cases with a fatal uniformity. The most favorable point for spontaneous evacuation of the contents of an appendicular abscess is into the cecum. Rupture into the rectum is also followed by recovery in the majority of cases. Rupture into the bladder is fatal in about fifty per cent. of the cases. The most favorable results have been recorded where early operative interference was instituted, the mortality under this plan of treatment being but six per cent.

Medical Treatment.—The first indication in a case of appendicitis, or supposed appendicitis, is to obtain free action

of the bowels. This is best accomplished by the administration of Castor oil or of small and repeated doses of salines —preferably Rochelle salts—or, if the stomach is not tolerant to salines, small doses of calomel. The free evacuation of the bowels, not drastic purgation, clears the alimentary canal of foreign and irritative substances, relieves the congested blood-vessels and places the bowels in a favorable condition for operation, if it is necessary. I cannot emphasize this important part of the treatment too strongly, as upon it I believe largely depends the chances of the patient's recovery.

Where there is great pain, we may be forced to use an anodyne, but it should be given in the smallest possible dose. I prefer to use spirits of chloroform, carminatives, or extract of belladonna before giving opium. If relief is not obtained, I administer small doses of opium, preferably by suppository which is less liable to cause sick stomach. The use of leeches and blisters is advocated by many in preference to purgation, but this is not in accord with my experience. Blisters are particularly objectionable on account of the infiltration of the skin they occasion, which both interferes with palpation and the recognition of pus by the edema of the abdominal walls.

The question of diet throughout the disease is important, and it should consist, until the patient is convalescent, of peptonized milk, koumyss, milk and apollinaris or carbonated lithia water, liquid beef peptonoids, and concentrated beef tea, the latter being all the more indicated on account of its laxative effect. Butter-milk is grateful to many patients.

Surgical Treatment.—As to the propriety of the removal of the appendix in cases of recurrent appendicitis, there is, in my mind, no doubt. While experience has taught me that acute attacks of recurrent appendicitis are less fatal than primary appendicitis, I cannot see how this argues against removal of the appendix between attacks, the period for the elective operation. I am unable to understand the philosophy of the argument that because a patient has survived a number of attacks of recurrent appendicitis, the appendix should

not be taken out, for each recurring attack may possess elements of danger unknown to us which may deprive our patient of his life. Those of us who have observed these cases carefully, know that many are the subjects of chronic invalidism. The percentage of mortality in operations for recurrent appendicitis in skilled hands is less than one per cent.

The absence of inflammatory conditions so simplifies the operation that its after-conduct entitles it to be classed as a simple wound. This same absence of any acute inflammatory condition which relieves the necessity for drainage and the consequent impairment of the integrity of the abdominal walls, lessens, in a great degree, the liability to ventral hernia.

The after-treatment of these cases is so simple that it deserves special mention. It consists during the first three days of alimentation alone—absolutely no opiate—and, at the expiration of this time, if the bowels have not moved voluntarily, of the administration of one-tenth-grain doses of calomel every hour or two until a desire to defecate is produced, when an enema is given.

I desire to disclaim the idea that all cases where the ordinary medical treatment has failed to afford relief, are cases for immediate operation. The decision as to operations should rest only with an experienced surgeon who may carefully observe the progress of the case, and the operation should be done by one who is thoroughly prepared to dispose of any unlooked for condition likely to be met with in any case, with the skill required for the rapid performance of the operation. In the gravest types of disease, the sudden abatement of the symptoms is a forerunner of perforation. If operation has not been already considered, the strongest indication for its immediate performance now presents itself. Following this period, a general peritonitis has developed and the golden opportunity of offering the patient his only chance for relief is past.

The technique of the operation varies by reason of the different local conditions found. When the abscess is cir-

cumscribed and shut off, after the pus has been evacuated and the cavity irrigated, if the appendix cannot be readily found, it is not judicious to make a prolonged search for it, by which the limiting wall may be broken through and a communication with the general peritoneum established. However, I have been fortunate enough in most cases of this class to find the appendix and remove it without breaking through the abscess wall. When the abscess is in communication with the general peritoneal cavity, a more prolonged search for the appendix may be made with less risk than in the preceding state, but the patient's general condition is usually so bad under these circumstances as to make it unwise to keep him under the effect of the anesthetic any longer than is absolutely necessary.

When the loin is rendered prominent by the mass, or is the seat of edema, I take it as an indication that the appendix holds a post-cecal or an external antero-lateral position, or that it comes off from the apex of the cecum, and I carry the incision parallel with and a short distance above the outer third of Poupart's ligament, prolonging it outward if necessary. When the mass presents itself well to the inner side of the anterior superior spine of the ilium, I carry the incision through the semi-lunar line, or, rather, through the rectus muscle immediately to the inner side of the semi-lunar line. The wound, when carried through the muscle, heals more solidly, and therefore there is less likelihood of the development of a ventral hernia, than when made through the semi-lunar line.

In acute cases the treatment of the stump of the appendix will depend on its situation and the mobility of the cecum; if the latter has become fixed through plastic adhesions, and it is not deemed advisable to make the manipulation necessary to bring it well up into the wound, the appendix is tied off *in situ*. If, however, it is possible to present the appendix in a favorable situation, a circular incision is made through the serous coat half an inch from the cecum, and the serous coat then stripped back for the space of a quarter of an inch; the appendix is then tied off with fine silk, the serous cov-

ering replaced with edges inverted, and brought together with a Lembert suture. The latter disposition of the appendix is decidedly the most favorable, and is the method which we are enabled to employ in cases of recurrent appendicitis, with few exceptions. In cases of abscess, the pus cavity, when limited, is thoroughly irrigated and drained with either tubes or iodoform gauze, or both combined. When the peritoneal cavity has become generally involved, irrigation and drainage are employed in the usual way.

After-Treatment.—The after-treatment in acute cases consists in the administration of small doses of salines repeated sufficiently often to free the bowels, with the same diet as before mentioned, alimentation being allowed immediately on cessation of ether emesis.

CLINICAL REPORTS: SKIN SYPHILIS OF SEVERE TYPE: SUBSEQUENT INVOLVEMENT OF THE LIVER.

By Arthur van Harlingen, M. D.,

PROFESSOR OF DISEASES OF THE SKIN IN THE PHILADELPHIA POLYCLINIC.

Mathew G. 38 years of age, came under my care at the University Hospital Clinic in June, 1877, with a history of syphilitic infection of eight years standing, characterized by the usual lesions of the skin and mucous membranes which accompany the early period of the disease. About two months previously the patient had suffered from some affection called "brain fever" but which was in all probability some syphilitic brain affection.

On examination, the patient was found suffering from syphilitic periostitis of the right tibia accompanied by swelling and severe pain not only in the affected locality but in all the limbs. No fewer than twelve gummatous ulcers of small size were counted in various parts of the body. The patient was entirely broken down and in poor health.

He was ordered iodide of potassium in ten grain doses three times a day together with inunctions of diluted mercural ointment.

Under this treatment the patient grew rapidly better, but after a period of neglect, returned to the Clinic with a relapse of the periosteal trouble. Treatment with larger doses of the iodide of potassium was followed by improvement, then a period of neglect, further relapses, a return to larger doses until the dose of forty grains of the iodide three times a day was required to subdue the syphilitic manifestations.

Under this large dose of iodide the patient continued for some weeks and then disappeared until Feb. 11, 1878, when he returned asserting that he had continued the treatment during the intervening four months. No lesions were visible on the skin, but he complained of pain which seemed pleuritic in character.

This pain was intermittent at first, but later had been almost constant. It was referred to the right side of the chest running along the edge of the diaphragm. On examination the liver was found very slightly prominent but dullness on percussion showed enlargement to a hand-breadth below the edge of the ribs. There was marked tenderness on pressure below the ensiform cartilage.

Such movements as putting on his coat, etc., gave pain and he was not able to draw a full inspiration. He also complained of mental disturbance and said that his mind wandered at times and that he was sometimes delirious at night.

The subsequent history of the patient was as unsatisfactory as is usual with patients of this class. Some improvement was made under treatment which was continued with intervals of neglect until Dec. 12, 1878, when he finally disappeared.

I may remark in connection with this case that the late visceral lesions of syphilis do not seem to have attracted as much attention in this country as their comparative frequency appears to deserve.

Long ago I became interested in the subject, and as I found among the larger number of cases of skin syphilis coming under my hands a notable proportion of subjects

who subsequently showed lesions of the interior organs I made notes from time to time as opportunity offered intending to collate the facts obtained at a subsequent period.

But it is quite impossible to study such cases in an out-door clinic, and at the period of my greatest activity in this direction I could not command a bed in any hospital.

Days and weeks spent in walking the slums of the city to keep track of interesting cases and lavish blandishments of every sort, employed to woo back the prodigals to their attendance at the clinic, resulted so frequently in disappointment that I have wasted more time fruitlessly in this pursuit than I should now care to acknowledge.

It is indeed difficult to follow the course of such a slow and insidious disease through years, and it seldom happens that the observer who has noted the earlier symptoms of a syphilitic case of the severer type has the good fortune to follow it through its later outbreaks.

It is all the more desirable, therefore, that careful, even though fragmentary, notes should be published when possible, because the notes of one observer may complete and round out those of another.

I may say here with regard to the symptomatology of late hepatic syphilis that its early stage, which corresponds to that of connective tissue hyperplasia, or hypertrophy, is characterized by enlargement of the organ to a degree perceptible to external examination. Percussion shows, as in the case recorded above, dulness above and below the line of the ribs to an abnormal degree, while the tumor can be seen in the epigastric region.

Pain is said to be a characteristic symptom and it was noted in the present case, but not referred to the points usually described, namely, radiating toward the epigastrium iliac fossa and the kidneys. It may be that the low intellectual calibre of my patient prevented an accurate account of the localization of pain in his case.

Icterus is another occasional symptom of hepatic syphilis but this was not noted in the present instance.

Ascites is also sometimes observed but was not here noted,

probably because the enlargement of the liver was not very great.

Hepatic syphilis is markedly amenable to treatment, at least in its earlier stages, and in the present case rapid amelioration took place while the patient was under treatment. Unfortunately he was so irregular in his attendance upon the clinic that not much permanent benefit could be expected.

In the latter stages of hepatic syphilis, atrophy of the liver supervenes, with marked digestive disturbances leading to marasmus and cachexia. At this period treatment is of little or no avail. The progress of the disease is slow and insidious.

INCONTINENCE OF URINE.[1]

By Herbert B. Carpenter, M. D.,

INSTUCTOR IN CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC.

Gentlemen :—This young woman of 18, comes to us complaining, as she describes it, of a weakness of the bladder, which has existed for years. She has involuntary emissions of urine at night during sleep. She has fairly good control through the day, but often has to exert herself. She has menstruated irregularly for three years. She looks poorly nourished and a little anemic. Her tongue is slightly coated, appetite fair and bowels regular.

The examination of the urine is negative.

Now we may recognize several varieties of incontinence of urine. 1st. The incontinence may occur only at night (enuresis nocturna). 2d. It may occur during the day (enuresis diurna). 3d. The bladder may fail to hold the urine both in the day and night (enuresis continua). Again there are cases in which it occurs only upon some nervous start.

Most cases are seen between the third and the thirteenth year, and a little more frequently in males. The sphincter of the bladder becomes developed toward the end of the

[1]Lecture at the Philadelphia Polyclinic.

second year, but the infantile condition may persist for some time and debilitating diseases occurring in later years may restore it to its original incompetency.

The causes are numerous, and the diagnosis of the exact condition of the affairs may be quite difficult.

1st. Cases resulting from debility of the neck of the bladder and the internal sphincter—which is often a part of a general muscular debility, or in other cases the general muscular system is well developed, while the neck of the bladder alone seems to be neglected.

In these cases as Jacobi explains, "The posterior part of the urethera when narcotized as it were, during sleep gives away before the gentlest pressure on the part of the expelling muscle of the bladder." Profound sleep is not a cause of incontinence.

2d. Cases depending on insufficient innervation, diseases of the spinal cord and of the nerve centers, and cases where the reflex apparatus is defective, the sphincter which contracts normally while the bladder is filling up, loses its control.

3d. Reflex incontinence arises from a variety of causes, namely, a contracted prepuce, collections of smegma behind the corona of the glans penis, and rectal irritation, the result of worms, retention of feces. Fissure or polypus is a frequent reflex cause. Cases may depend on an increased reflex irritability of the bladder itself.

4th. Masturbation is also a frequent cause of incontinence of urine.

5th. The over expansion of the bladder with urine is a cause of nocturnal incontinence. Hence the drinking of large quantities of liquids in the evening is to be prohibited.

6th. Incontinence is often due to change in the constitution of the urine. The secretion becoming intensely acid, or loaded with urates and phosphates (the result of improper digestion) irritates the mucous membrane of the bladder, causing contraction of the detrusor muscle and frequent expulsion of urine. Cystitis and stone cause incontinence in the same manner.

In adults we have as additional causes, hypertrophy and disease of the prostate gland, fistula after parturition or after operation for stone, the too frequent use of large bougies passed into the bladder. The mechanical distension of the bladder from obstruction, due either to enlarged prostate, stricture of the urethera, etc., so weakens the walls of that organ, as to induce a dribbling or overflow from paresis of the sphincter vesicæ.

Treatment.—The causes of enuresis are so numerous that it requires tact and discrimination in the selection of remedies, and a careful examination must be made to discover if there exists any local cause likely to produce and perpetuate the affection. Some cases get well spontaneously about the period of puberty when the whole genito-urinary apparatus undergoes rapid development.

General anemia and muscular debility require a full nutritious diet, massage and electricity (one pole applied to the perineum and the other to the lumbar region) and the use of tonics, especially strychnine and iron in large doses. Cod-liver oil will also be useful. Whenever there is an excess of urates, phosphates, or oxalic acid, or sugar in the urine the source of the disturbance must be attended to.

The diet must be corrected and very often the most obstinate cases will yield when the urine is made clear and mild by the use of alkalies, as sodium bicarbonate or potosium acetate.

To lower the sensibility of the bladder and the cerebrospinal centers, no remedy is so efficient as belladonna or its alkaloid. Children tolerate very large doses but to be efficient it must be pushed until its physiological effect is produced. To a child of three years you may begin with three drop doses of the tincture.

A single dose of atropia at night, gr. 1–100 to 1–25 will act well. Often a combination of potassium bromide (grs. v–xxx) and belladonna will be more efficacious than either drug alone. A pill of

Camphor gr. $\frac{1}{2}$–2
Belladonnæ $\frac{1}{12}$–$\frac{1}{4}$

Four times a day to a child of 10 years is useful.

Ext. humuli fl. (♏ v–xv) may be tried.

I have used antipyrin with success in several cases after failing with other drugs of this class.

Reflex causes are to be removed. If there is a contracted prepuce, circumcision, or incision will be required, although at times a gentle dilatation will answer. Firm adhesions of the prepuce will require careful detaching. Intestinal worms must be removed. Constipation is to be relieved by laxatives.

Vaginal catarrh, which is often obstinate, is to be treated with dusting powders of borax, tannic acid or astringent injections, and with tonics. Polypoid excrescences in the urethera or vagina are to be removed. Fissure of the rectum to be treated by cauterization, dilatation or incision. The presence of stone in the bladder, fistula, tumor, etc., have their own indications and require surgical aid.

Tincture of cantharides in drop doses three times a day is said to be useful in the incontinence of adult females, on laughing or sudden movement.

In incontinence dependent upon debility of the bladder, turpentine (5–15 drops) or Ext. rhus aromatica fl. (3–15 drops) are sometimes of service. Cases in adults if combined with loss of sexual power have been treated with success by suspension.

In very obstinate cases of urinary incontinence, after other remedies have failed to afford relief, and in cases where there is marked irritability of the neck of the bladder and the prostatic part of the urethera, cauterization by means of a two per cent. solution of nitrate of silver may be tried. An elastic or a metal sound may be introduced into the bladder every third day for two to three minutes, this will be found beneficial alike in the male and female. Sänger has treated a number of cases of incontinence, which he believed to be due to a paresis of the sphincter in women and girls by gentle dilatation, and the manipulations he believed strengthened it.

Some chronic cases, especially those associated with

vesical catarrh, may be helped by forcibly dilating the bladder with increasing amounts of water.

Masturbation, which often causes an irritation of the prostatic urethera, will be found difficult to cure. The child will have to be watched and corrected.

Incurable cases in males, should wear a urinal.

The bladder and rectum should both be evacuated before going to bed. If the patient is capable of being reasoned with, he should be advised to sleep upon his side and to rise once or twice during the night to empty the bladder.

In young children, the nurse or parent should be instructed to take the little patient up and rouse it sufficiently to urinate. A spool or large button strapped to the back to prevent the child sleeping on its back is sometimes used by the mother.

The use of collodion over the meatus at night I would not advise, and I have seen serious ulceration from a rubber band and a piece of string tied around the penis to prevent the boy wetting the bed.

To attempt to cure incontinence by intimidation and punishment is brutal, but not uncommon, and nothing is more unfortunate as it only makes matters worse, the fault being beyond the child's control.

To return to our patient I believe her enuresis is due not only to debility of the muscles of the neck of the bladder and sphincter, but also to weakness of the spinal centers governing the bladder. We will give her a tonic of iron and arsenic. And give her a solution of strychnine (1 gtt.=$\frac{1}{120}$ gr.) as it will be much easier to increase the dose in this form. We will begin with gr. $\frac{1}{60}$ and increase to gr. $\frac{1}{8}$ three times a day.

[Six weeks later the girl reported that for over a week she had been able to hold her urine both day and night. She is taking $\frac{1}{10}$ gr. strychnine three times a day and will continue at that dose for a few weeks longer.]

REST VERSUS EXERCISE IN THE TREATMENT OF PULMONARY CONSUMPTION[1].

THOMAS J. MAYS, M. D.,

PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC, VISITING PHYSICIAN TO THE RUSH HOSPITAL FOR CONSUMPTION.

Consumption is a wasting trouble, not only of the lungs but of the whole body. The consumptive may possess a considerable amount of strength, but this has no staying qualities. It is easily dissipated and the whole course of the disease indicates the existence of a serious error in that portion of the body which has to do with the accumulation and distribution of energy. This fault, I believe, resides principally in the nervous system.

I regard the sufferer of this disease in the same light as I do the individual who is approaching the border of financial bankruptcy. The consumptive in order to get well must improve his physiological capital. By this it is meant that he must recover the flesh and strength which he has lost. He can accomplish this either by increasing his income, or by diminishing his expenditures. If he does both of these things he will obtain his object soonest.

We must check his expenses and increase his capital. This is done (1) by placing him at rest, and (2) by increasing the amount of his food. As the province of this paper is to dwell on the influence of rest in the treatment of phthisis, very little will be said of the important part which food plays in the same direction.

Text-books on the practice of medicine as a rule are silent on the value of the rest in the treatment of phthisis. It has been recommended by Doctors Brehmer, S. Weir Mitchell, Bartholow, and others, but apparently without full appreciation of its importance.

In a recent discussion on the subject at a Colorado Medical Society, there was a unanimous expression in favor of

[1]Abstract of a paper read before the Medical Society of the State of Pennsylvania.

rest as a curative agent in this disease. From my personal experience, I have been led to adopt rest in the treatment of phthisis on account of the unsatisfactory results from other modes of treatment, and the observation that it seemed to be the rest necessarily enjoined that was really of most benefit.

Whatever the prevailing line of treatment may have been there was always, at least in the beginning, a certain amount of rest with it, in the form of lying in bed, or sitting in the house. This was especially the case in the fall, winter, and early spring, when out-door life is naturally discouraged by the inclemency of the weather; but still the ruling idea was to get the patient strong enough to exercise in fresh, open air, and hence there existed a constant anxiety to get out, and every fine day was eagerly utilized for this purpose. I often perceived that patients who, after being kept quiet for some days and who were believed to be abundantly able to take the supposed needed out-door exercise, almost invariably relapsed when they undertook to do this, and after a number of disappointments of this sort, I came to the conclusion that my error consisted in not systematically controlling the physical movements of my patients when I allowed them to resume activity.

The idea of exercising the consumptive for strength is a fallacy of the worst type. It is based on the assumption that because, in health, exercise gives strength, therefore the invalid must derive the same benefit. Nothing can be further from the truth, and to illustrate this I can do no better than to draw another example from the field of finance. It goes without saying that money makes money. The banker puts his money on interest, or in other words, he exercises his capital and by so doing he increases his financial strength; but the poor man has no money to put on interest, and he struggles along from year to year for the purpose of making a decent living. This parallel holds good between the man in health and the consumptive. The former has a sufficient amount of reserve physiological capital which he can expend in physical exercise, and we

all know that physiological activity not only brings strength, but builds muscular tissue,—hence by doing this he enhances his normal resources; but the latter has no reserve capital whatever, and is, as has already been said, on the brink of physiological dissolution. In his exhausted state he lives from hand to mouth, for he consumes all the force which he obtains from his food in carrying on the functions which are necessary to a bare existence. Exercise in his case is therefore meaningless in a physiological sense, and can leave no other than a disastrous effect on his already drained and devitalized constitution.

In the practical application of rest in phthisis much of our success will depend on whether we adapt it properly to the needs of each individual. No iron-clad law can be laid down in this matter. Whether it is best to place a patient on absolute rest, or whether to allow him to exercise under proper restrictions, are questions which must be decided by his condition. The cardinal principle to be followed in choosing between the two plans is as to whether the former or the latter, or a mixture of the two, will place him in the best possible position in which he may regain his lost flesh and strength, and have his bodily expenditures reduced to the lowest point consistent with life. His physical state and power of resistance will help us much in determining this problem. If the disease in the lungs is trivial, if there is only a slight constitutional disturbance, moderate fever, and not too great a tendency to become tired on exertion, there is present a greater power of resistance to disease than if there is a great deal of lung mischief, or much constitutional depravity, combined with a persistent sense of exhaustion. A patient in the latter condition must be placed in complete repose on his back; while it is probable that one in the former condition may be treated successfully with a less rigid observance of the rest treatment. It is a safe rule, however, to place all such patients in bed at the very outset, and allow them to sit up or walk about as soon as they are safely able. Their ability to do these things can only be found by testing it. One of the best indices in

governing our action here is the state of temperature. If this is persistently above 100° in the evening, or rises on slight provocation, they are not fit to undertake those ordeals. It is astonishing often how readily the temperature is disturbed in such patients. I have observed on a number of occasions that if they take a brisk walk, run up stairs, or swing dumb bells for five minutes, the temperature will rise from a degree to a degree and a half in the course of a short time, even though it had been at or near the normal point before.

I am often asked if phthisical patients take kindly to the rest treatment, for it is generally believed that a practice which is so much at variance with the prevailing custom of managing this disease surely meets with opposition. In answer to this I must say that it is very exceptional to find a patient who is not willing to submit to it after he fully realizes his true situation, and comprehends the rational basis of the proposed procedure. The almost invariable improvement which follows the immediate application of the remedy stimulates the hope that still greater amelioration will come and this more than compensates for the monotony to which it sometimes gives rise. Indeed, instead of the treatment being tedious I find that my patients are usually contented and happy. Care is necessary that social intercourse is not curtailed too much, that they are given enough of innocent amusement. They read, converse, play chess, dominoes, cards and checkers, are allowed to see their friends, if there are not too many, and are permitted to enjoy themselves, so far as enjoyment can be carried on in bed. If their lungs are extensively involved, and especially if any tendency to hemoptysis exist, they are cautioned against the strain of hearty laughter. Music has a quieting and restorative effect on this class of patients, and they should be frequently given the opportunity of listening to entertainments of this character.

In addition to the rest treatment, my patients also receive food of the most nourishing kind, such as freshly expressed beef juice, beef powder, beef steak, milk, eggs, oysters, etc.,

as well as drug medication and hygienic management, but as these objects are not embraced in the title of this paper I will dismiss them with this brief reference.

In conclusion I will, instead of going into details, give a brief summary of what rest, in connection with the other treatment referred to, has done for twelve of my phthisical patients who have made the most marked improvement during the last eighteen months.

In the aggregate these patients gained 228 pounds, or an average gain of nineteen pounds for each patient. I am of the opinion that the strongest recommendation in favor of any line of treatment for the phthisical is its power of increasing the weight, although it must not be condemned because it fails to bring this about in every instance. Indeed, I have had cases who did no more than hold their own in weight under this treatment and yet went on to recovery.

Finally, in thus advocating the great value of rest in the treatment of pulmonary consumption, I do not mean to say that exercise is to be universally condemned, but I do wish to lay stress on the fact that we are too prone to apply it too early, and therefore improperly, and that it is a measure which is more applicable to the management of the convalescent than to the active stage of the disease.

Therapeutic Notes.

Prevention of Malarial Disease by Quinine.—Sézary (*La Semaine Médicale*) reports from experience of more than four years in the malarial districts of Algeria, in confirmation of the observations of Longuet that complete immunity from malarial disease may be secured by the regular use of small doses of quinine, and that these doses can be taken persistently without inconvenience to the stomach. He administers from 10 to 15 centigrammes [one and one-half to three grains] in a single dose daily; using the sulphate dissolved in white wine acidulated with tartaric acid.

Water Treatment of Angina Pectoris.—Dr. Charles E. Page, from the delightful effects he has observed from the treatment recommended by the late Professor Kirk of Edinburgh, is inclined to accept his view that this disease is, in the great majority of cases, a cramp, not of the heart but of the stomach; and that it is promptly relieved, as he had experienced in his own person, by douching the spine with cold water, or, when this is not practicable, placing a cold compress upon the back opposite the stomach and having it constantly changed.

Hypodermic Use of Arsenic.—Dr. H. N. Moyer has employed this method in the treatment of twenty-eight cases of chorea, three of paralysis agitans, and eight of neurasthenia. Arsenic is one of the peculiar and exceptional remedies that is much less poisonous when exhibited beneath the skin than when given by the mouth. Early observers employed "Fowler's solution" of potassium arsenite and found that there was a decided tendency toward the development of abscess. This may have been due to the presence of arsenious acid in the preparation as usually found in the shops. In five hundred injections of the arseniate of sodium, in strengths varying from one to ten per cent, it never caused irritation, tumefaction, or anything approaching abscess. The one per cent solution of the arseniate of sodium contains approximately twice the amount of arsenic in the same quantity of Fowler's solution. Moyer has used it in quantity equivalent to forty, fifty and sixty minims of Fowler's solution. He ordinarily begins with the equivalent of thirty minims.

Formic Aldehyde as an Ocular Antiseptic.—Valude recommends formic aldehyde (a colorless liquid very miscible with water) as an ocular antiseptic (1–2000). It may be used in purulent conjunctivitis, to arrest post-operative infection, to secure chemical sterilization of alkaloidal collyria, and for an instrumental bath.

Subconjunctival Injections of Sublimate.—Gagarine uses a solution of 1–1000, pure or with cocaine. He has had good results in gummatis iritis, in plastic and purulent

iritis, in irido-choroiditis after recurrent fever, and in ulcers of the cornea with hypopon. He failed to affect favorably cases of diffuse parenchymatous keratitis and of episcleritis.

The Action of Scopolamin on the Eye.—Bellarminow regards the new mydriatic recently proposed by Rælhmann (scopolamain) as indicated for the same cases as atropin, especially to determine anomalies of refraction and accommodation, and considers it preferable to atropin because it has all its good effects without its bad qualities. It may be used in a strength of half a grain to the drachm. The salt employed is the hydrobromate.

Current Literature.

Methods of Treating Pyelo-Nephritis.—Dr. Joseph Price (*Journal of the American Medical Association*) says: Incision and drainage of the kidney in the early stages of suppurative diseases are not more dangerous than incision and drainage anywhere else in the economy. It is only delay that makes the operation more extensive, and therefore more dangerous, both on account of the suppurative process, *per se*, and on account of the constantly increasing danger of the final total loss of the entire organ.

When the diagnosis of pus in the kidney is established, operation is as much indicated for abscess here as for its opening elsewhere. The nature of the operation selected should be that which will best insure the ultimate safety of the patient with the least risk. In a large pus sac, where the whole kidney is involved, the condition of affairs is extreme, and the operation that will give present relief is the one generally to be chosen. Cases will get well with incision and drainage, that cannot possibly stand the shock of a more prolonged surgical operation. But another class of caseswill present themselves—those in which the suppurative process has advanced to a less degree. Here the question of choice will, in the minds of many, be an open one.

The operations suggested are complete extirpation and simple nephrotomy, with drainage. Where complete extirpation is to be considered, the condition of the patient is never to be lost sight of. If the kidney can in any way be preserved, no matter if only a small portion of it is intact, it is by all means to be urged that this be done. This is especially to be remembered in the occasional presence of a horse-shoe kidney, whose removal will be most surely followed by death from uremia. Primary extirpation of the kidney is never a simple matter. The adhesions are vast, often dense and multiform, and the patient is in poor condition to stand the shock of operation.

If the sac be evacuated and drained, there is a distinct gain to the patient in several ways. First the pus is gotten rid of, and, second, there is a shrinkage of the tumorous mass with a retraction of the adhesions. Again, constitutionally, there is a prompt improvement, and secondary operation if necessary, is better stood. The operation, by reason of the *prolonged anesthesia, is dangerous* to the remaining kidney, and hence the salvage of the remaining organ should not be unnecessarily risked when nothing is gained and much is to be lost.

Surgical shock, of itself of the greatest importance here, owing to the generally bad condition of the patient, is enhanced by shock from hemorrhage, usually very great in large tumors of the kidney. In the weakened circulation and loss of power of resistance, heart clot from embolus is more apt to occur if the extreme operation is insisted upon in the weakened state of the patient. Heart clot, it is to be remembered, is one of the urgent dangers in the removal of the kidney, and its complete ablation in greatly exhausted conditions is to be deprecated. Ideal surgery is not here logical, unless it be conceded that the surgery only is ideal which preserves life, as I have so often insisted.

The general logic then of the operation, is a constant effort to simplify every condition necessary both for success and the patient's safety. Primary drainage and packing,

with subsequent removal if necessary, seems best to fulfil these indications.

Analyzing the causes of death, we find that the factors of shock, hemorrhage, embolus, collapse, and vomiting, enter largely into the mortality. These, it will be seen, are all consequences of total ablation in the presence of serious general and constitutional trouble.

Treatment of Fibroid Tumors of the Uterus.—Editorially the *New York Journal of Gynecology and Obstetrics* says: "The determination of the proper treatment for fibroid tumors of the uterus presents many difficulties and the unfortunate patient who consults many specialists will become bewildered by the difference of views presented.

"One class of men advise non-interference; trusting that relief will come with the menopause. The hemorrhages and pressure symptoms are treated by electricity and curettage and all means possible are employed to carry the patient to the menopause. If a mortality of less than eight per cent, in bad cases, is a just estimate of the let-alone treatment, the risk we must run to secure speedy relief is at least twice or three times worse.

"The number of gentlemen belonging to the class who are indisposed for active interference is much smaller than it was ten years ago. Many of this class have modified their views so that they may be classified under the following head: those who operate only when the patient presents symptoms which menace life, or which make it unbearable, irrespective of the size of the tumor. The symptoms which are directly a menace to life are renal disease from pressure of the mass, rapid growth of the tumor, uncontrollable hemorrhages which have exhausted the patient, and indications of malignant disease. The symptoms which render life unbearable differ in different individuals. One patient will bear with fortitude great suffering which will completely crush a weaker sister.

"The third division may be made of those who advocate removal of fibroid whenever found, and particularly those which tend to develop within the pelvis. These operators

urge that their mortality is so low that the patient may better run the risk of the operation than the risk of the fibroid. Many of these gentlemen claim that electricity is detrimental, as it induces inflammatory action about the tumor and renders subsequent operation, if necessary additionally dangerous. This claim is by no means established.

"Yet another class of men advocate the use of electricity solely as a curative measure, and of these many claim that the results of this treatment have been so good that it is not justifiable to attempt operation until it has been carefully tried by men familiar with its use. It is a well tested fact that to apply the current to secure the best results, it requires a familiarity which can only be acquired with an extended experience and it is for this reason that results from different men may differ materially.

"The removal of the ovaries, particularly for small tumors, is advocated by many, when the ovary is readily removed; and it is also opposed.

"Many years must pass before any uniformity of opinion can prevail, but before this comes it should not be forgotten that all the views enumerated have the authority of distinguished men, and it is injudicious to advise a plan of treatment to a patient without also stating that there is a great diversity of opinion among those best qualified to speak. This plan of action removes the sting from differing opinions, and it must not be forgotten that gynecologists owe a respect to received opinions, as citizens owe obedience to the laws.

"It has been said that the question of the best method of treatment will be settled in time by statistics. Among the original contributions to the journal will be found a paper in which Dr. Baer again calls the attention of the American Gynecological Society to an important modification of the technique of the treatment of the stump. This modification, it is claimed, does away with the great dangers which have been found to exist when a stump is left, i. e., sepsis and hemorrhage. By controlling the blood vessels outside of the

stump, bleeding is controlled and the necessity of constricting the stump with a ligature is avoided. Dr. Baer has lost but two cases out of a total of 37 cases. This is a remarkably good showing and we believe the method one worthy of a thorough trial."

Word Blindness.—Dr. A. W. Hoisholt (*Occidental Medical Times*) reports the case of a musician, aged 63, with confused memory, but coherent in language and free from hallucination. Speech was normal, with no misapplication of words. He understood everything said to him, and could spell correctly and write properly at dictation. But, when asked to read what he had written, could not do so, not even his own name. Single letters of the alphabet he generally read correctly, but could not put even three letters together and pronounce words like "and" or "the." This he ascribed to poor sight, yet he saw and recognized objects at a long distance.

When furnished with a violin, he could play most difficult passages of music without a fault, but when requested to play by note, hesitated and played something not on the paper, and could not name correctly a single note.

His vision could not be improved by glasses, and he was found to have left homonymous hemianopsia, involving about one-third of the field. Subsequently the field of vision became progressively more contracted until blindness was complete.

At the autopsy, the cortical surface around the posterior end of the first temporo-sphenoidal fissure was found somewhat depressed below the surrounding surface and presented several hemorrhagic spots from the size of the head of a pin to that of a small pea. There were also more extensive changes, apparently more recent, in both occipital lobes.

A New Solvent for Uric Acid.—Dr. Frederick Peterson (*New York Medical Journal*) reports from the laboratory of Thomas A. Edison, experiments with neurine and tetra-ethyl-ammonium, as to their solvent power over uric acid, and the safety of the latter given internally. Both were found to be very efficient solvents of uric acid. The tetra-

ethyl-ammonium was, however, preferred on account of its being a definite inorganic compound.

It occurs in deliquescent hair-like needles, absorbs CO_2 from the air, is strongly alkaline, saponifying fats. It is as bitter as quinine. Concentrated it burns the tongue, and has a caustic action upon the epidermis. As a solvent of urea, uric acid and the like, it is much more effective than piperazine.

Internally, a solution of 10 per cent. may be employed in doses of 10 to 20 minims by the mouth, or 10 minims of a 1 per cent. solution may be injected hypodermically. It must not be confused with tetra-*methyl*-ammonium, which is poisonous, giving rise to symptoms similar to those of curare.

Book Notices.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS.——By J. Burney Yeo, M. D., F. R. C. P., Professor of Clinical Therapeutics in King's College, London, etc. With illustrations. Two vols. 12 mo. pp. 631, 744. Philadelphia, Lea Bros. & Co. 1893.

This work is quite different from the ordinary collections of formulas which masquerade as works on Clinical Therapeutics; and over encyclopedic works it has the advantage of being the product of one mind, and therefore harmonious throughout in conception and execution. It discusses with the intelligence that comes from wide reading and rich experience, the indications for treatment offered by diseases grouped according to physiologic relations, and points out the various methods by which these indications can be met. Formulæ are inserted, but as illustrations, not as rigid patterns. We do not always agree with all that the author says, but even when we differ from him, we are glad to learn what Dr. Yeo's practice is and to know the rationale of that practice. It is sure to be instructive and suggestive. We have carefully read every page and it is our deliberate opinion that we could not afford to be without the book, now that it

is in existence. The teachings being those of an accomplished physician, are resourceful and practical; the style, being that of an experienced teacher and cultured writer, is smooth and lucid. It is not only concise, but at the same time sufficiently full to leave in the reader's mind no sense of unsatisfaction. We cannot recall within recent years a publication more useful, or one that we could recommend with a surer conviction that the purchaser will find ever increasing satisfaction in referring to it.

S. Solis-Cohen.

OPHTHALMOLOGY FOR THE GENERAL PRACTITIONER. By Adolf Alt, M. D. Second edition, octavo, 346 pages with 140 illustrations. St. Louis, J. H. Chambers & Co., 1893.

This work, though completely revised and enlarged, preserves the leading characters of its first edition. Its account of the normal and pathological anatomy of the eye is particularly full and abundantly illustrated. In addition to first chapter of 30 pages devoted to it, there are many allusions to points of anatomy and illustrations of the same throughout the work. The diseases of the lids and lachrymal apparatus are considered more in detail than is often the case in works of this kind.

Glaucoma and sympathetic ophthalmia, affections which the general practitioner needs always to bear in mind, because of their incurability when once they have gone on to seriously damage vision, are also treated somewhat extensively.

The chapters on examination of the eye, minor manipulations in the treatment of eye diseases, on the diagnostic value of eye diseases in intra-cranial affections, and of eye affections caused by diseases of distant organs or diseases of the general system, will attract especial attention to the work, for they consider subjects of great practical interest to all physicians.

THE CLINICAL USE OF PRISMS AND THE DECENTERING OF LENSES. By Ernest E. Maddox, M. D., Formerly Syme Surgical Fellow, Edinburgh. Second Edition. 12 mo., pages 170. With Tables and Sixty-nine Wood Cuts. Bristol, Eng.: John Wright & Co., 1893.

Those familar with Maddox's little book will recognize from the number of pages, a very considerable increase in its size. The new material consists of a fuller study of convergence and of a number of optical problems and practical points worked out since the first edition. The number of diagrams has also been greatly increased, and these diagrams are especially valuable, because they represent in a manner that is understood by the non-mathematical, some things that have heretofore, been supposed to require elaborate formulas.

The work is one which covers a subject of practical importance not presented so completely anywhere else. No ophthalmic surgeon can afford to be without it.

Notes.

New Professors in the Philadelphia Polyclinic.—Dr. Ralph W. Seiss has been elected Professor of Diseases of the Ear, a new chair having been created for him in that department.

Dr. William J. Taylor has been elected Professor of Orthopedic Surgery, taking up the work which Dr. Benjamin Lee finds he can no longer carry on in addition to his private practice and duties as Secretary of the Pennsylvania State Board of Health.

Correction.—It has been brought to my attention by a colleague that the statement that solutions of boric acid, are alkaline is erroneous. The statement was based on actual trials corroborating the assertion of a pharmacist supposed to be well informed. Probably the specimens of boric acid thus tested contained enough borax to render them alkaline. Solutions of pure boric acid are distinctly acid in reaction.

EDWARD JACKSON.

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THE THERAPEUTIC PROPERTIES OF ANIMAL EXTRACTS.[1]

BY SOLOMON SOLIS-COHEN, A. M., M. D.,

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Gentlemen:—In connection with the treatment by hypodermatic injections of an extract of the pancreas, of a case of diabetes in the wards, and in connection with the treatment by dessicated thyroid gland of some cases of circulatory disorder in patients attending the dispensary, it has been suggested that I should discuss with you the general subject of the use of animal extracts in the treatment of disease. This, as you are aware, is by no means a new therapeutic method; it descends from the fathers of medicine; by whom, I mean not Hippocrates and Galen, but the shamans, the wizards, and the obi-men of savage tribes.

Western medicine has progressed beyond the stage of witchcraft, but even to-day, in China and other eastern lands, the viscera of animals and the bodies of reptiles are favorite medicinal preparations. You may be familiar with one of Sir Edwin Arnold's poems of Japan, which turns upon the necessity of obtaining a fox's liver to cure a royal princess. In reward for kindness once shown by this lady to the foxes, the fox-wife brings her husband's liver in a basket, and places it at the foot of the princess's couch.

[1]Lecture delivered at the Philadelphia Polyclinic.

In our own times, the practice of seeking in the glands and viscera of animals for preparations of medicinal virtue has received a great impulse, almost to be termed a revival; first, through the experience of Brown-Séquard with testicular juice, then through that of British physicians with preparations of the thyroid gland, its greatest notoriety, however, being owing to the very recent publications of Ex-Surgeon-General Hammond.

In order that you may be able to follow the subject intelligently, let me, before going further, state the results; for which, afterward, I will give what appear to me to be the reasons.

Except in the hands of Brown-Séquard and his immediate colleagues, the injection of preparations of the testicles of animals has proved of very limited and uncertain therapeutic usefulness.

There is no testimony of which I am aware, other than that of Dr. Hammond in favor of the therapeutic virtue of that observer's "cerebrine" and "cardine."

Great therapeutic power has been demonstrated for preparations of the thyroid gland in the treatment of a certain group of disorders associated with diseases of the thyroid gland; namely, myxedema, cretinism and cachexia strumipriva; and more recently it has been said to be of use in the treatment of scaly diseases of the skin. It has proved of limited service in my hands, in a few cases, in the temporary relief of symptoms in exophthalmic-goiter and other forms of vasomotor ataxia, in diabetes mellitus, and in one case of akromegalia.

Preparations of the pancreas, aside from their well known benefit as digestive agents, have in the hands of Dr. Neville Wood, of Dr. Mansell, of Dr. Hector Mackenzie, and of others, including myself, proved useful, but not curative, in the treatment of certain cases of diabetes mellitus.

Preparations of the thymus gland have, in the hands of Dr. Charles Macalester of Liverpool, proved of great service in the treatment of pseudo-hypertrophic paralysis and general lymphadenoma, both of these being, as you will observe,

diseases of nutrition; diseases in which errors of metabolism are prominent features.

Preparations of nerve-tissue have been used by Gibier and others with varying results in epilepsy, in paralysis agitans, and in functional nervous disorders.

Here is the record of experience. Let us see what theory would indicate and compare our theoretic conclusions with these records.

Between such organs as, for example, the brain and the thyroid gland, there are many and great differences. One of these differences is all-important for the present discussion. The thyroid gland is a secretory organ; the brain is not. Without entering into a discussion of the exact nature of the process, concerning which the evidence is not clear, it is sufficient to know that clinical and experimental observations are at one in demonstrating that the thyroid gland manufactures some substance, which by its function in the economy, prevents the occurrence of the symptom-complexus termed myxedema or cachexia strumipriva; the former name being applied when the gland atrophies through disease, the latter when it has been removed by surgery.

Such being the case, it is natural to expect that if in cases in which defect or absence of the secretory functions of the thyroid gland has resulted in the development of these symptoms, we artificially supply the lacking secretion, the symptoms would disappear. The facts, as already stated, justify this expectation.

At first, the implantation of a thyroid gland in the abdomen was tried and proved successful with men and with animals. Later, Dr. Murray of Newcastle, England, injected subcutaneously preparations obtained by macerating the finely minced thyroid with glycerin, and still later, Hector Mackenzie and others showed that the administration of thyroid extract, of raw thyroid, and of dessicated thyroid by the mouth was equally efficacious.

The principle is exactly the same as that upon which we administer pepsin or pancreatin to replace the natural pep-

sin or pancreatin in digestive disorders; the body failing to furnish a certain substance which is necessary to the proper nutrition of all the organs, we supply that lack by administering a similar substance obtained from animals.

The mode of action, it is true, is somewhat different. The digestive ferments act locally in the stomach, that is outside the physiological interior of the body and upon foreign materials—food-stuffs. The thyroid preparations act within the blood or lymph after absorption, or if locally, upon the diseased tissues. The function of the gastric and pancreatic secretions in digestion is to prepare materials for nutrition; the function of the thyroid secretion is, probably, to destroy or antagonize certain products of function that otherwise act as toxines. In addition it prevents exaggerated growths of certain tissues. In a word, its function, as I have previously expressed it, is in truth "chemiotactic," that is inhibiting or regulatory in regard to the metabolic chemistry.

It will be observed, moreover, that whatever it may be that is accomplished by the administration of thyroid extract, it is not the cure of disease of the thyroid gland. No one, surely, expects to cure disease of the peptic glands by giving pepsin, or disease of the pancreas by giving pancreatin. It is the complex disorder resulting from the absence of thyroid secretion which is relieved in the one instance, just as it is the disorder caused by the absence of peptic or pancreatic secretion which is relieved in the other instances. In either instance there is no cure, for unless the administration of the thyroid preparation is kept up indefinitely, the symptoms due to the absence of thyroid secretion return just as the symptoms due to the absence of pepsin or pancreatin return when the administration of these drugs is stopped. Cure can only be obtained by measures which will secure natural reproduction of the missing secretions. So far as the thyroid gland is concerned we know, as yet, of no measure competent to effect this end.

Now, let us look at the other side of this question of animal extracts. The brain, so far as we know, secretes

nothing physical. So far as we know there is no symptom or symptom-complexus which can be attributed to defect in any supposed secretory function of the brain. Consequently, there is nothing in the whole nosology which on theoretic grounds, the administration of brain extract could be expected to remedy. Similarly, the heart so far as we know, secretes nothing and there is no symptom or symptom-complexus which can be attributed to default of supposed secretory function on the part of the heart. Equally, therefore, there is no ground for the administration of heart extract to remedy disorder caused by disease of that organ. For, let us remember, the thyroid extract does not cure thyroid disease, the thymus extract does not cure disease of the thymus, the pancreatic extract does not cure disease of the pancreas; and to expect brain extract to cure brain disease, or heart extract to cure heart disease, is on a par with the science of the Obi-doctor and the practice of the lizard-giving Chinamen.

This, however, does not exhaust the possibilities of the subject. Preparations of the tissues and juices of animals have a recognized place in the pharmacopeia. Thus, you are familiar with cantharidis and perhaps with blatta lapponica.

There is no reason, whatsoever, why the toxic and nutritive properties residing in substances of animal origin should not be utilized in medicine just as the toxic and nutritive properties residing in substances of vegetable and mineral origin are utilized. First, as to toxic properties: I say toxic properties, because while ordinarily we restrict the term toxic to effects which greatly disturb function or jeopardize life, yet, strictly speaking, every disturbance however slight, that is set up in the human economy by foreign substances, is a toxic effect, and it depends on the degree and character of that toxic effect whether the ultimate result is remedial or otherwise. The effect of atropin in paralyzing accommodation and causing mydriasis is, in suitable cases, therapeutically beneficial, but it is none the less the same in kind as the harmful effect that would

result from an overdose of the same drug.

There are many substances of animal origin, or that can be obtained by chemical manipulations of animal tissue, which possess the power of modifying the action of different organs and tissues of the human body; and I repeat, there is no reason whatsoever, why the properties of these substances should not be availed of in medicine. It needs only to be remembered that the particular organs or tissues from which such substances may be extracted bear no necessary relation to the organs affected in the diseases for the treatment of which these products may be employed. Thus, thyroid extract has a very decided diuretic power, and I have employed it with satisfaction, as a diuretic in a case of nephritis in a patient with no apparent disease of the thyroid gland.

Brain extract may, perhaps, prove to have beneficial action upon the heart or upon the kidneys; kidney extract may have a useful influence upon the organs of respiration; lung extract may have an hypnotic power. In other words, the true line of experimentation with animal extracts is the same as the true line of experimentation with drugs of mineral or vegetable origin. Their physiological or toxic powers should be studied in the laboratory and tested clinically without reference to their source; and only after such studies have been carefully made, can conclusions be drawn as to the probable usefulness in medical practice of the substances investigated.

And now, a word as to the nutritive properties of animal extracts. It may be that such extracts will afford a readily assimilable pabulum in diseases of certain tissues and organs, as we know such pabulum is furnished by preparations of phosphorus, iron, and other mineral substances found in the normal body, and by caffein and other vegetable products. Hence the injection of preparations of nerve-substance may have a rational basis. Again, it has been shown that certain important functions in resisting infection and in maintaining nutrition are performed by the nuclei of cells, and it may be that all animal extracts will

prove useful by virtue of the chemical constituents of the nucleus. This, too, is a proper field for clinical observation and laboratory experiment.

That the action of the thyroid gland in the treatment of myxedema is of an entirely different nature from either of these processes; that it is neither toxic nor, except in a very broad sense, nutritive;—that is, that while it regulates nutrition and prevents aberration of metabolism it is not directly used as a food element—I have already sufficiently explained. The action of the preparation of thyroid gland in relieving the headache of my case of akromegalia is possibly to be explained upon a somewhat different theory. The headache of akromegalia is due, at least in great part, to enlargement of the pituitary body. This enlargement of the pituitary body is probably supplementary to want of function on the part of the thyroid gland, the two being related embryologically. The administration of thyroid extract in this case may do away with the necessity of enlargement on the part of the pituitary body. But in a case in which the pituitary had already been enlarged sufficiently to produce permanent pressure symptoms, the administration of thyroid extract would not be expected to have any very decided result. In a mild case, where the process of enlargement was but beginning, it might be expected to hold that process in check. As to the effect of the thyroid extract in mitigating the general symptoms of akromegalia, experience is not yet sufficiently great to speak positively. I should expect it to act favorably in a recent case, and even in an old case to modify the progress of the disease. Of its effect in relieving headache in several cases of vasomotor disorder, and in one case of diabetes, and of its apparent temporary good effect in one case of exophthalmic goiter, I am not yet prepared to offer an explanation. The facts are worthy of record; beyond that, as yet, I cannot go. The doses used, which at all events are not dangerous in patients other than myxedematous, were from 10 to 15 grains of a dessicated preparation of sheep's thyroid gland made by Messrs Parke Davis & Co., and of which thirty grains represent an aver-

age gland. This was given once or twice daily, with aromatic powder, in hot beef-tea, or in hot coffee. The fact that similar doses could not be borne in myxedema, in which affection half a gland once a week seems to be effective, would indicate that in myxedema under the influence of the thyroid extract the abnormal tissues undergo chemical change, throwing into the circulation products that would be toxic if in great quantity, and hence must not be produced too rapidly for the excretory organs to deal with. In cases associated with cardiac lesion, absolute rest during treatment is said to be necessary; as two cases in which this precaution was neglected have proved fatal.

The administration of pancreatic extract in diabetes rests upon the experiments of Minkowsky, Lépine, and others who attribute a glycolytic function to some internal secretion of the pancreas. They found that when they had entirely extirpated the pancreas in certain animals, diabetes mellitus ensued; whereas, if a small portion of the pancreas were left, or if a pancreas graft had previously been successfully made beneath the skin of the abdomen, these symptoms either did not occur or were but transient. In this connection, we must remember that the mere secretion of sugar is but an incident in true diabetes, and as Harley has suggested, it is not alone deprivation of glycolytic ferment, but also the failure to remove or destroy certain excrementitious products ordinarily dealt with by the pancreas that renders the disease fatal. It is difficult, however, to determine clinically whether or not a given case of diabetes is of pancreatic origin. It is also as yet undetermined how much or how far in so-called pancreatic diabetes—that is, in cases that have exhibited pancreatic lesion post mortem, and in the experiments described—involvement of, or injury to the ganglia and nerves of the sympathetic system is responsible for the diabetic complexus of symptoms.

Thus while the administration of preparations of the pancreas by the stomach and hypodermatically is a legitimate expedient in any case of diabetes mellitus, and especially in cases associated with emaciation, we must not expect too

much from it.

In the case under observation at this hospital, we began with the injection twice daily of twenty minims of a specially prepared aseptic glycerin extract of the pancreas kindly manufactured for me by Messrs Parke, Davis & Co.; and we increased the dose up to forty minims twice daily. No bad local effect, such as digestion of the tissues or abscess, as I at first feared might be the case, was produced in a preliminary trial upon animals and upon himself, kindly made by our former resident physician, Dr. J. C. Knipe; and none resulted in our patient. The patient increased in weight and comfort; his skin became moister; his thirst diminished; and as less water was ingested less was excreted; but we observed no constant or decided effect upon the quantity of sugar excreted.

This, I believe, tallies with the experience of other observers. I have a case now under observation in private practice, in which improvement seems to have resulted through the administration of liquor pancreaticus by the mouth, but in this case also, the improvement is in the general condition of the patient and not in the excretion of sugar.

I have had but one experience with the Brown-Séquard fluid. Through the courtesy of my colleague, Professor Thomas S. K. Morton, I received from one who had received it direct from Brown-Séquard's laboratory a sealed packet of this preparation. I used it strictly according to the directions accompanying it, upon a patient at the Philadelphia Hospital, to whom the nature of the preparation and of the effects expected were explained. The patient was an intelligent man and welcomed the trial of the substance upon himself. The effect of suggestion was certainly not absent from the factors in the case. The result of the experiment, however, was *nil*. No improvement whatever resulted, although the case was a favorable one; debility without serious organic disease in a man of about sixty years of age.

To sum up, I would repeat my conclusions in the following form: Aside from their nutritive properties as general food or as food for special tissues, and aside from such anti-

septic power as may be due to the chemical constituents of cells or nuclei, preparations of animal organs and tissues may have, in the human body, action of one of two kinds, which may be termed respectively intrinsic and extrinsic; intrinsic, when they replace some normal secretion deficient in the patient; extrinsic, when they act as any other drug in modifying function and tissue without relation to the nature of the tissue from which they have been derived.

From Brown-Séquard's fluid, and possibly from Dr. Hammond's preparations, and others of like nature, effects of an extrinsic nature may be produced; but the effects of intrinsic nature can only be derived from preparations of secreting organs, that is, such preparations as thymus-extract, thyroid-extract, and pancreatic-extract. Even these latter, however, while they will have a large and extending field of usefulness in such diseases as anemia, lymphadenoma, rachitis, diabetes, myxedema, akromegaly and other errors of metabolism, do not and cannot cure diseases of the glands to remedy the deficiencies of which, they are administered.

To expect such action or to expect extract of brain to cure brain disease, extract of heart to cure heart disease, extract of kidney to cure kidney disease, is to desert the solid ground of experience and the steady light of science to follow into the bogs of mysticism the Jack-o'-lantern of savage superstition.

ACUTE INFLAMMATION OF THE LACHRYMAL SAC.

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The lachrymal sac is not unfrequently the seat of acute inflammation. A swelling appears at the inner angle of the eye near the root of the nose, immediately beneath the internal palpebral ligament; the tumor is irregular in outline, not sharply defined, very painful and sensitive to pressure;

the overlying skin is tense and reddened; fluctuation is soon detected. The lids are usually edematous, at times even erysipelatous.

Swelling and edema occur in this situation, also in acute inflammation of the conjunctiva, periostitis, stye, subcutaneous abscess or purulent infiltration of the orbital connective tissue, as well as in erysipelas. Careful examination of the region of the sac will guard against mistakes in diagnosis.

The conjunctiva, especially the nasal portion, is usually congested; there may be chemosis. The nasal mucous membrane also participates in the congestion. General febrile movement is sometimes present. Occasionally, enlargement of the sac is alone observed, without other signs of inflammation. No expression of fluid is possible through either the nasal duct or the canaliculus, the internal openings of the sac being impervious from the swelling. The same cause prevents the entrance of tears into the sac, hence, on evacuation of the abscess, pure pus without admixture of tears is discharged at first. It is only after the swelling has subsided that the tears are again enabled to enter the sac, and can thence be discharged through the external opening. At this stage, pressure over the sac causes regurgitation into the eye through the puncta.

Abscess of the lachrymal sac often occurs without assignable cause; occasionally, but rarely, in consequence of traumatism directly affecting this region. It not unfrequently results from extension of facial erysipelas; in this case it is difficult to determine which is the primary affection. The inflammation is sometimes secondary to disease of neighboring organs, as inflammatory processes of the conjunctiva, nasal cavities, the antrum, etc., and to caries of the bones. In the majority of instances, however, it is due to obstruction in the course of the nasal duct; this gives rise to retention of the contents within the sac to be followed by inflammation, or the disease is an acute exacerbation of chronic inflammation of the tract dependent upon obstruction. Inflammation of the lachrymal sac does not lead to the formation of pus in every case, although this is the usual termi-

nation. Cure may take place with absorption of the inflammatory products, or these may find an outlet through the natural passages. Cicatrices may form within the sac, and thus add to existing obstruction.

The usual termination of the affection is spontaneous evacuation of the pus, through the overlying integument where this has not been forestalled by surgical intervention. The inflammation subsides and cure may take place with closure of the opening. As a rule, however, where the case is left to nature, repeated perforations occur, and permanent closure of the opening is prevented by the constant discharge of muco-pus and tears. The track finally becomes covered with an epithelial coating, and a true fistula is formed. Such fistulas are permanent, and do not heal without surgical interference. The pus usually burrows externally. Several fistulous passages may occur; as a rule, there is but one. The external opening of the fistula is commonly situated on the cheek immediately below the internal palpebral ligament; at times it is found a considerable distance from this point, the fistula running a tortuous course beneath the skin.

Occasionally, the pus makes its way into the conjunctival sac, the track becoming fistulous. In rare cases, perforation occurs through the posterior wall, denuding the periosteum, and ultimately reaching the surface. The denudation of the periosteum is without serious consequences, it being soon re-formed. The lachrymal bone is occasionally involved in the inflammation, becomes carious, perforated, and the pus is discharged into the nose. Caries and necrosis occur most frequently in scrofulous and syphilitic subjects. The affection of the sac in these cases is only part of a more widely extended disease of the bones.

Treatment has to fulfill the same indications here as in acute inflammation in other situations. These are: to remove the exciting cause where this is possible; to combat the intensity of the inflammation; to limit, or if possible, to prevent the formation of pus, or, if this is already present, to forestall the evil consequences of spontaneous perforation,

and, finally, to favor healing if a fistula is present.

Where the disease begins with active inflammatory symptoms, cold applications are soothing and often effective in cutting short the inflammatory process; if the symptoms are of great intensity, local abstraction of blood may be practiced to aid the effect of the cold. In other cases, and when the intensity of the inflammatory symptoms has subsided, a simple, dry dressing is all that is required.

As soon as there is reason to suspect the presence of pus, the contents of the sac are to be evacuated by slitting the canaliculus, preferably the lower; the sac can then be readily emptied by gentle pressure, aided by the introduction of a probe into the cavity. This procedure is usually followed by the most satisfactory results; the swelling rapidly subsides. and prompt recovery takes place where the operation has been practiced sufficiently early. The procedure is not a difficult one if the swelling and tension be not excessive. If induration continues after the operation, poultices may be applied to favor resolution, but these should not be employed until free drainage has been secured in the manner indicated, otherwise, external perforation would be favored by their use. In cases that come under treatment where this accident has occurred, the canaliculus is to be slit and treatment appropriate to chronic catarrh instituted. In the majority of cases, an obstruction will be found in the course of the lachrymal tract. This will have to be remedied, when the fistula will close without special treatment directed to it; it then takes care of itself.

If slitting the canaliculus has been delayed too long, and the surrounding connective tissue has become involved, the abscess will be located exterior to the sac and cannot be emptied from within; this may be suspected where the abscess is large and the skin has become so thinned as to permit the underlying pus to be recognized by its yellow color. In this case it will be necessary to give vent to the abscess directly through the skin; an opening made with the knife is much more likely to heal than a spontaneous perforation. The point of selection for this purpose is situated on a line

with the upper margin of the lower lid, about 4 mm. to the inner side of its nasal extremity; the cut is to be made perpendicular to this line downward and somewhat outward.

LARGE DOSES OF STRYCHNINE IN THE TREATMENT OF PULMONARY AND CARDIAC DISEASES.[1]

By Thomas J. Mays, A. M., M. D.,

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From an extended experience with the use of strychnine I feel convinced that it gives better practical results in the treatment of pulmonary and cardiac diseases than any other single remedy at our command. Without going into details, it is my belief that many affections of the lungs and heart are fundamentally dependent on disorder of the nerves which supply these organs, and that the curative effects of this agent in these diseases rests largely on the power which it has in correcting this primary aberration. It has also been shown that strychnine has the faculty of multiplying the corpuscular elements of the blood, and is therefore, like iron, a blood-builder.

I believe, however, that we often fail to obtain its best effects by giving it in too small doses. I do not mean to say that strychnine should be given in large doses in every disease to which it is applicable, but these remarks pertain only to those diseases to which reference is made in this paper. The custom of giving strychnine in doses of $\frac{1}{60}$ or $\frac{1}{30}$ of a grain I have discarded long ago, for I feel satisfied that such amounts are comparatively worthless. I begin with a dose of $\frac{1}{32}$ of a grain, and more often with $\frac{1}{30}$ of a grain, and then gradually increase until I touch the limit of toleration.

Strychnine is peculiar in this respect. The length of the ascending scale from the effects of such a dose to a point where the physiological action of the drug begins to develop

[1] Abstract of a paper read before the Philadelphia County Medical Society.

itself is usually very long, and during the time that this is traversed by the therapeutist a free opportunity is given to obtain the full stimulant action of the drug in gradually increased doses.

The *limit of toleration* varies much. I have a number of patients under my care at the present time who are taking $\frac{1}{10}$ of a grain, and four who are taking $\frac{1}{7}$ of a grain, and one who is taking $\frac{1}{8}$ of a grain four times a day. Most of these patients have been taking the drug from three to seven months continuously. I have seen patients, however, who could not endure more than $\frac{1}{20}$ of a grain four times a day. So soon as the patient begins to show evidence of intoxication the dose is reduced to a point where this is no longer manifested, and then maintained there permanently or again increased after some time. It should always be borne in mind, that the dose which was toxic once may in time be taken with impunity.

The only *untoward effect* of strychnine when given in such large doses, so far as I know, is its occasional tendency to produce diarrhea; but at the very worst I do not believe this proneness is very pronounced. It has been asserted that it causes albuminuria by reason of the high blood tension which it brings about. Of this I have not observed the least evidence, having frequently examined the urine of patients to whom strychnine had been adminstered in such large doses for more than a year.

Special details. In *asthma* I usually begin by introducing about $\frac{1}{20}$ of a grain under the skin daily or every other day, if possible in the evening; and administer about $\frac{1}{30}$ or $\frac{1}{25}$ of a grain by the mouth four times a day, and gradually increase this in the way above indicated. Strychnine must be regarded as a powerful adjuvant in the treatment of asthma, although we must never lose sight of the importance of treating the diathesis or exciting cause on which the disease often rests, and of improving the general nutrition.

Bronchitis, whether acute or chronic, is very much benefited by strychnine. It checks the cough, diminishes the expectoration, improves the appetite and puts to one side

the whole constitutional relaxation and feebleness frequently present, especially in the chronic form of this disease. It must be given in ascendant doses, and may be combined with benefit with the syrup of the hypophosphites or hydriodic acid, or with both.

Strychnine is one of the most useful agents in treating *acute pneumonia*, whether this is of the croupous or catarrhal variety. I usually begin by injecting $\frac{1}{20}$ of a grain, and if the case is severe I keep this up morning and evening, together with the internal administration of $\frac{1}{20}$ of a grain every three or four hours until symptoms of intoxication begin to show themselves. This I have seen to take place on the second and third day of the disease. If the case is a mild one it will suffice to give $\frac{1}{20}$ of a grain every four hours.

I know of no diseases which is more eminently benefited by strychnine than *pulmonary consumption*. As a rule, sufferers from this disease are capable of taking it in extraordinarily large doses. I have a number of phthisical people under my care at the present time, both in hospital and private practice, who are taking over half a grain of it a day, a dose which had been reached by a gradual increase of a smaller one.

Cardiac Diseases. In recommending strychnine as one of our most valuable cardiac stimulants let me remind you that its action is not interchangeable with that of digitalis. Each fulfils its own peculiar indication in the treatment of diseases of the heart. Digitalis acts more on the muscular and less on the nervous structure of the heart than strychnine. Strychnine is principally indicated in those diseases of the heart which are dependent on a disturbance of innervation, as for example, in simple cardiac weakness and in irregularity and intermittency of its pulsations, while digitalis is preferable in cases where there is a want of compensatory power in the heart muscle, as in valvular incompetency.

Bearing in mind this difference, strychnine should be prescribed when the nerve supply of the heart is enfeebled through auto-intoxication such as is found in the post-par-

alysis of diphtheria, scarlatina, measles, smallpox, influenza, whooping-cough, and in poisoning from alcohol, lead, mercury, etc.

Irregularity and intermittency of the heart's action are frequently benefited by the administration of large doses of strychnine, and more often than not, do we find that digitalis is utterly useless in such cases.

Angina pectoris is another paroxysmal disease in the treatment of which strychnine in large doses stands pre-eminent.

Again, digitalis is always regarded as the sovereign remedy in the treatment of valvular diseases of the heart and their sequences, but there comes a period in the life history of every such affection in which digitalis, no matter how much benefit was derived from it before, proves utterly useless. It aided in developing muscular fibres, but now, the nervous energy of the patient begins to flag, and the heart-walls relax in spite of the muscular hypertrophy which is present, and digitalis no longer possesses the spurring properties which it once had. The blood dams up in the left ventricle and auricle, the pulmonary circulation becomes impaired, edema and congestion of the lungs follow, and death is threatened by way of the pulmonary organs. It is at such a time, when digitalis fails to counteract these many incidental complications, that strychnine steps in and shows its superior value as a tonic to the waning nerve energy of the heart and lungs.

[In the discussion following the reading of the above paper: Dr. L. F. Flick called attention to the marked increase of weight that occurs under the use of large doses of strychnine; and, did not know of any other drug which would produce this effect so rapidly and so satisfactorily. In the treatment of tuberculosis, it is one of the most valuable remedies that we possess and it should be used in large doses.

Doctor Charles Wirgman gave testimony to its value in asthma. He began with a dose of $\frac{1}{60}$ of a grain and increased it gradually to $\frac{1}{12}$ of a grain four times a day.

Dr. S. Solis-Cohen had no doubt that strychnine can, in certain cases, be well borne for prolonged periods. In hysterical and other forms of aphonia, and in paralysis following diphtheria, he had given as much as $\frac{1}{3}$ of a grain three times a day; having reached this dose by gradual increment; but he did not believe that this dose should be given to a large number of cases. He had seen, as a rule, better results from small doses, namely, $\frac{1}{64}$ of a grain. In acute pneumonia, strychnine is unquestionably one of the best agents that we possess; but, observing patients side by side at the Philadelphia Hospital, those receiving small doses did at least as well as those who received large doses.]

IMPERFECT DEVELOPMENT OF THE FEMALE SEXUAL ORGANS.[1]

By Charles P. Noble, M. D.,

LECTURER ON GYNECOLOGY IN THE PHILADELPHIA POLYCLINIC, SURGEON IN CHARGE OF THE KENSINGTON HOSPITAL FOR WOMEN.

The influence of imperfect development of the sexual organs as a cause of diseases of women, cannot well be overestimated. At the present time not so much is said of the influence of this factor in producing disease, because it has been more or less lost sight of since tubal and ovarian pathology has so much occupied the attention of gynecologists. The experience of every observant practitioner demonstrates the prevalence of imperfect development, and also its influence in producing various diseases of women.

As a rule, when the development of the sexual organs is arrested, the development of the body, as a whole, is also interfered with. Such women, almost without exception, belong to the class of neurotics, and they are liable to all manner of neuroses, including, especially, chorea, headache and neuralgia. The most striking signs of this condition are the late development of puberty, the imperfect and painful character of menstruation, and the fact that the history

[1]Read in the Section on Obstetrics and Diseases of Women of the American Medical Association.

of semi-invalidism, almost without exception, can be obtained. Puberty is often delayed even as long as the eighteenth or nineteenth year or longer. Menstruation is always painful. The pain belongs to the type of so-called ovarian dysmenorrhea; that is to say, it begins one or several days, or even a week, before the menstrual flow, and is felt especially in the ovarian regions.

Reflex neuroses are common accompaniments, especially headache, disordered digestion, or even sick headache. Uterine dysmenorrhea, due to the undeveloped condition of the uterus (especially of the cervix) which is in general sharply anteflexed, is frequently present. This is indicated by its paroxysmal character, and by the fact that, as a rule, it is much less marked after the flow has become fully established.

The reason why the development of the sexual organs of girls becomes arrested is not absolutely demonstrated. The influence of modern education as a cause has been much dwelt upon, and the evidence in support of this theory is very strong. The effect of the crowded courses and frequent examinations in our schools is developing the nervous system at the expenses of the rest of the body, and later in breaking down the tone of the nervous system through overwork, has been abundantly proved. The emotional side of the female character likewise is stimulated. As a result of these conditions the digestion of growing girls is apt to become deranged, and their sleep likewise to be disturbed. As a further consequence anemia and depraved nutrition follow, aggravating the neurotic conditions already engendered and thus completing the vicious circle.

When such girls arrive at the age of puberty, especially if at the time they are being crowded with a multiplicity of studies to enable them to enter a fashionable finishing school, the demands upon the nervous system to enable them to accomplish their tasks are such that the processes which are necessary to bring about the proper development of the sexual organs are not brought into play—enough vital force is not left over to accomplish this result. The testimony of

urban practitioners is unanimous upon this point, hence it must be considered as established that too great mental occupation directly hinders the development of the sexual organs. And not only that, but at the same time breaks down the tone of the general nervous system.

Other causes, however, must be considered. Some of the most marked cases of arrested development of the sexual organs which have come under my notice have been among the poor. These girls not only had not been forced at school, but in not a few cases they had never been to school. In some of them it seemed to me that the cause was too early and too laborious work, especially in mills. I have had numerous patients among mill operatives who had gone to work as children in mills, and who had worked full time during the years when the greatest development takes places. In these girls it was probably a lack of fresh air, of out-of-door exercise and of an abundance of nutritious food, together with too much work that was at the bottom of the difficulty.

A curious class of cases but too little understood is that in which extreme corpulency is present. I have seen numerous cases in which menstruation was tardily established, never perfectly performed, and which ceased or became scanty and irregular between the twentieth and thirtieth years. Whether the imperfect character and early cessation of menstruation was due to obesity, or whether the obesity was due to the absence of menstruation I have never been able to satisfy myself. However, my own experience fully confirms the current opinion that obesity bears a certain relation to scanty and imperfect menstruation.

The development of the sexual system in women is one of the mysteries of nature and the exact forces which bring it about will probably never be perfectly known, but it is rational to believe that the existence of good health about the time of puberty has much to do with its proper development. The care of growing girls, particularly between the age of nine and sixteen years, is a subject of the utmost importance, and the profession has no more urgent duty

than to instruct mothers concerning the importance of the proper care of girls during that period. Girls who are inclined to be neurotic, and whose digestion and nutrition are at fault should not be treated in the same way as their stronger and more phlegmatic sisters. Their duties at school should be lightened, they should be more in the open air, and any functional disease which may exist should be cured. In this way some surplus vital force may be stored up to be called upon when necessary in the development of the sexual system. Also, when menstruation fails to appear at its accustomed time special care is necessary. It is at this time that therapeutics has the best opportunity to influence the patient.

The health of all such girls should be carefully inquired into and all indications for treatment should be met. In particular, the administration of iron, arsenic and strychnia, and out-of-door exercise are to be commended. Such cases should not be lost sight of until menstruation is fully and perfectly established. I feel confident that if this plan be carried out, there will be fewer cases of dysmenorrhea and sterility upon the one hand, and of laceration of the cervix and perineum upon the other, and also fewer cases of chronic ovaritis and ovarian cystomata. I have purposely not made mention of the higher grades of imperfect development, and of the cases in which one or more of the sexual organs are entirely absent. These cases belong to a different category, from the standpoint of practical medicine.

A MODIFIED SKIASCOPE.

JAMES THORINGTON, M. D.,

INSTRUCTOR IN DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC.

The ordinary plane mirror skiascope as sold by opticians, the mirror four centimeters and sight hole (often cut through the glass) four millimeters in diameter respectively, I have found very unsatisfactory. My results were

often deficient in accuracy as much as one-half a dioptre, and when the greater light area (that seen within the pupillary margin) was apparently neutralized, I was never quite certain of the central shadow.

The study of the shadow test as here referred to, is with the operator sitting at one meter distance from the patient and near to the opening in the cover chimney that surrounds the lamp flame.[1]

The size of the mirror of the ordinary skiascope being so large, gives at this working distance of one meter too large an area of light, one that is not only unnecessary but often confusing. To overcome this I have had made by The Fox Optical Company, a skiascope as shown, full size in the accompanying cut. The black disc is four centimeters in diameter and shields the observer's eye, while the plane mirror secured to the center of this disc is only two centimeters in diameter. The size of sight hole is also reduced to three millimeters. And this is not cut through the glass, the quicksilver or plating alone being removed. It will at once be seen that this reduction in the size of mirror and sight hole assists materially in the careful study of the central shadow and the getting of accurate results.

[1]Vide. Dr. E. Jackson on Retinoscopy. De Schweinitz on Diseases of the Eye. Fig. 53, page 129.

Therapeutic Notes.

Pyoktanin in Malarial Fever.—M. Schnabel (*Occidental Medical Times*) reports of its trial in eleven cases. It proved successful in six and failed in five. One of the main factors in accounting for this failure is, perhaps, the intolerance of the stomach toward it. While it undoubtedly possesses some therapeutic value in malarial fever, it is inferior to quinine. Perhaps if some combination were effected with it to carry the drug rapidly through the stomach a better result might be obtained.

It may be given a trial in cases where quinine has failed. It should be given when there is no food in the stomach, and may be administered, 2 gr., as often as every two hours until twelve doses have been taken. The urine is rarely stained by it.

Treatment of Abdominal Tuberculosis.—Dr. A. S. Colman, (*British Medical Journal*) thinks the most satisfactory lines of treatment seem to be: (a) Administration of food in a concentrated form. Meat seems to be better borne, for some unexplained reason, both by stomach and intestine, than large quantities of milk. (b) Allaying of the irritation of the mucous membrane, for which bismuth seems especially serviceable. (c) Checking the fermentation within the intestine by the administration of internal antiseptics, of which beta-naphthol seems one of the most efficacious. Treatment may be commenced by giving a teaspoonful of castor oil. (d) Relieving any flatulent distention of the lower bowel by daily warm water enemata, to which a few drops of creolin may be added.

Oxalic Acid as an Emmenagogue and Oxytocic.—Dr. H. C. Bloom (*Medical News*), finds this quite efficient. It proved successful in three-fourths of over forty cases in which it was employed as an emmenagogue. In four cases in which it was used, accidentally or designedly, it proved a safe and efficient oxytocic.

He gives it dissolved in water and syrup of lemon, in the dose of one-quarter grain four times a day. No unfavora-

ble symptoms were produced.

Irrigation for Posterior Urethritis.—G. Frank Lydston (*International Medical Magazine*) proposes a plan to carry antiseptic and microbicidal medicaments to every nook and cranny of the infected area. This is by irrigation of the urethra through a short nozzle, the meatus being compressed about the nozzle so that the fluid may balloon the urethra thoroughly. The degree of pressure is readily adjusted by raising or lowering the irrigator. As a rule it should be at about the level of the patient's head, he being in the standing posture. It can be further regulated by the degree of compression exerted by the thumb and finger about the nozzle; the more fluid that is allowed to escape, the less the pressure within the urethra. After the anterior urethra has been thoroughly washed the patient should try to urinate while a full stream of antiseptic fluid is ballooning the urethra. Relaxation of the sphincter results, and the fluid enters the deep urethra and bladder. As soon as the bladder is filled—which the patient readily appreciates—the fluid should be allowed to escape. The process is repeated until several quarts of fluid have been injected and ejected. At first a moderately warm solution is used containing as much boric acid as will dissolve, with ten grains of salicylic acid and an ounce of glycerin to the quart. Then about a pint of warm solution of nitrate of silver, in strength of from one-fourth to one grain to the ounce is injected. This attacks the abraded and congested points quite as vigorously as will five or ten grain solutions given in the ordinary manner. Other astringents and antiseptics may be used, but the silver solution is the best on the average. This treatment is advocated only for chronic cases.

Abortive Treatment of Gonorrhœa with Oil of Cinnamon.—J. Chalmers DaCosta (*Medical News*) urges, first, the thorough cleansing of the urethral canal by injecting, or spraying within it, the fifteen volume solution of hydrogen dioxid with a caution about permitting it to produce much pain by over-distention. The antiseptic solution is then used, either with the atomizer or by injection. It consists

of the oil of cinnamon dissolved in one of the liquid petroleum preparations. The first day the solution is made of one drop to the ounce; the second day, two drops to the ounce; and after that, three drops to the ounce.

Current Literature.

Tubercular Ostitis of the Knee, "White Swelling," in Children.—Dr. V. P. Gibney reports (*The American Journal of the Medical Sciences*) the results of an investigation made by Dr. P. H. Fitzhugh and himself, including notes of three hundred cases.

He defines this affection as a tuberculous inflammation of the lower epiphysis of the femur, or the upper epiphysis of the tibia, or both, primarily, and a chronic inflammation by contiguity of the immediate joint structures.

Clinical Features.—A child, who is usually regarded as the frail member of the family, begins to favor the knee by an almost imperceptible limp, or cries out with pain if the limb be moved in the usual way, and the parent immediately thinks of a fall or of a sprain of some kind that has occurred while at play. A pretty careful home examination is made, and nothing definitely discovered. Next day or the day following the lameness is not so pronounced, or, at least, the parents think so, the wish being father to the thought, and the child goes about his play as usual. A few days, or sometimes a few weeks, subsequently it is found that the contour of the knee is altered a little, that the child is really more lame, and that more care is required in handling the limb.

Then a physician is consulted, the joint functions are tested in a cursory manner, his eye detects the difference in appearance between the two joints superficially, and the case is regarded as either a sprain or a subacute rheumatic attack. If the former, the opinion is expressed that the child has sustained a fall or an injury of some kind. An investigation is instituted, and the opinion is confirmed. All children fall while at play at some time or other, and a

severe fall is not necessary to the production of an injury of this kind. The mother or the nurse in this way becomes, by negligence, the cause of the child's disability. On the other hand, if the diagnosis of subacute rheumatism is made, then the father or mother remembers some twinges about the shoulders or some other part of the body that they have experienced, and the professional opinion is here confirmed.

Whether the affection be diagnosticated as a sprain or as rheumatism, it is suggested that a few days, or a week or two at least, will decide the matter, and thus the disease makes headway. The lameness persists, the joint is vulnerable, and trauma now begins to play an important part. If the joint functions are fully tested at this time, there will be found reflex spasm on complete extension of the limb, and reflex spasm as the limit of complete flexion is approached.

The only satisfactory way of testing the functions of the joint is to test the functions of the correspondingly sound joint, and both limbs should be bare of clothing. One who makes his test in this way will discover also a change in contour. The normal depressions on either side of the patella will be shallower than those on the well side; the ligament of the patella will show some expansion; the condyles and the head of the tibia, if pressed upon, will be found tender; there may be a little synovial distention, as shown by palpation and flexion of the limb; there will be found in the majority of instances atrophy of the thigh and of the calf, with increase of the knee measurements; furthermore, by palpation, one or two points of extra heat will be detected. It is in this early stage, though, that these signs are apt to be overlooked, not because the physician is incompetent to detect, or even incompetent to interpret, but they are overlooked because he fails to make an examination.

The symptoms and signs already enumerated belong to what is known as the first stage, that is, the stage preceding deformity. The presence of a distended synovial sac does not always take the disease beyond the first stage, because

the inflammatory process in the end of the bone may extend by continuity and contiguity to the synovial sac, under the influence of a trauma, and this temporary synovitis may be but the expression of an exacerbation.

Under the influence of impaired nutrition, under the influence of occasional severe traumatisms, and under the influence of the trauma of use, which is almost continuous when the child is walking or playing, the disease advances gradually into what is known as the second stage, or the stage of deformity. In a few instances this stage is never reached, because the original blow has been a light one and the focus of the disease has not spread, but has been surrounded by a certain amount of bone sclerosis, protecting the patient against further disability.

It is not always necessary to have multiple foci in the neighborhood of the joint, any more than it is to have multiple foci in the lung. The dosage of disease is a personal factor that ought not to be overlooked. This second stage of deformity is attended usually with varying degrees of pain. The muscular spasm is greater; night cries are more frequent; the lameness amounts frequently to absolute inability to walk. It is in this stage that abscess appears. The structures in immediate contact with the knee or adjoining bones are distended, and the suffering becomes at times intense. This in turn impairs still more the general health. Fomentations and blisters and plasters fail to give relief.

The normal condition of the joint, is changed into one wherein the skin is glossy, veins enlarged, superficial parts very tender, surface heat increased, and wherein the joint is fixed, any passive motion causing great pain. In this stage too, we have exacerbations induced by trauma, or impaired health, or both. These exacerbations last from three or four days to three or four weeks. In the intervals the patient walks about, but with the heel raised, toes and ball of foot only touching the floor, the knee-limp is still more exaggerated, and assisted by a crutch or cane.

The third stage is generally known as the suppurative stage, and is attended with luxation or subluxation of the

tibia and of the patella. The fixation of the limb from spasm of the muscles—which spasm has been caused by the effort on the part of Nature to protect the joint against trauma—is replaced by ankylosis. Destruction of the bone takes place, the cicatrices form after sinuses or ulcers, actual shortening takes place. Shortening of the limb is now manifest, and the persistence of suppuration oftentimes induces a septicemia that baffles medical skill, or an amyloid degeneration of liver and kidneys, or, in some instances, a tubercular meningitis, though patients more frequently develop meningitis in the second stage. It is difficult to fix the limit of these different stages of the disease. Suffice it to say that the average duration of tubercular ostitis is from three and a half to four years.

In nearly 51% of the cases, the disease developed before five years of age. In 36 per cent. between the ages of five and ten. In 10 per cent. between ten and twenty years of age, and 2 per cent. after twenty years of age. Other joints were involved in but three per cent. of the cases. Forty cases died, twenty-two as a result of the disease. One hundred and forty had abscesses—one hundred and sixty had not.

Methods of treatment may be designated as (1) expectant, the treatment of symptoms with little reference to the correction or prevention of deformity; (2) the fixation treatment, the continuous use of some form of apparatus or the plaster-of-Paris bandage to immobilize the limb; (3) the protective treatment, which means immobilization of the joint until acute symptoms have subsided, the use of an apparatus that prevents concussion or jar, usually the Thomas knee splint, a perineal crutch with a high shoe for the sound foot.

The analysis of results shows that motion was obtained more frequently in those treated by the protection plan, namely, in all cases where abscess did not occur and in sixteen out of nineteen where abscess occurred.

Relapse occurred in but four of the abscess cases and in six of the non-abscess cases.

In reply to the question do not these patients require

apparatus of some kind the remainder of their lives, it was found that only thirty-six or twelve per cent. were wearing some sort of support. But fourteen cases came to excision.

It has long since been established that the growth of bone is seriously interfered with by excision, and surgeons, as a rule, avoid operating on the knee-joint. The cases that I have presented lend additional weight to the argument against the operation. The appearance of the sinuses, the infiltration and distortion of the limb, seem to demoralize the surgeon at times, and he feels that only an excision will save life.

Prevention of Tuberculosis.—Lawrence F. Flick (*Medical News*) offers as a comprehensive scheme of practical measures for the prevention of tuberculosis. 1. Registration of all cases of the disease which have arrived at the breaking down or infectious stage.

2. The education of the public at large and of the people immediately concerned as to the contagious nature of the disease and how to avoid contracting it and how to avoid transmitting it to others.

3. The careful and thorough disinfection of all infected houses, penal and reformatory institutions, conveyances and public places.

4. The establishment of special hospitals for the treatment of the poor suffering from the disease.

5. Government inspection and regulation of dairies and slaughter-houses.

6. The enactment of laws and ordinances forbidding practices as a result of which others are liable to be infected.

7. The restriction and regulation of interstate and international emigration of persons suffering from the disease.

8. The retirement of all tuberculous patients in the infectious stage from occupations in which they can infect others and the pensioning of those who cannot be maintained in hospitals.

Book Notices.

A TEXT BOOK OF OPHTHALMOLOGY.—By Wm. F. Norris, A. M., M. D., and Charles A. Oliver, M. D. Octavo, pages 641. Illustrated with five colored plates and 357 wood-cuts.

This long promised work appears to justify the expectations of the profession and the labor of its authors. And, the commendable press work and illustrations that characterize it, are quite worthy of the subject matter.

It is arranged in two parts; the first of these by Dr. Oliver includes Embryology, Macroscopic and Microscopic Anatomy, Physiology, Optics, Physiological Optics, Examination of the Eye, Ophthalmoscopy, Fundus-Reflex Test, Methods of Determination of errors of Refraction and Accommodation, and, The Correction of Errors of Refraction and Accommodation.

The second part by Dr. Norris includes Injuries of the Orbits, Eyes, and Eye-lids; Sympathetic Ophthalmia, Diseases of the Conjunctiva, Diseases of the Cornea, Diseases of the Sclera, Diseases of the Iris and Ciliary Body, Accommodation, Emmetropia, Hypermetropia, Myopia and Astigmatism; Cataract, Diseases of the Retina, Affections of the Optic Nerve and its Internal Prolongations, Diseases of the Choroid, Diseases of the Vitreous, Glaucoma, Affections of the Eye Muscles, Diseases of the Eye-lids, Diseases of the Lachrymal Apparatus, Diseases of the Orbit, and, Some of the More Common and Important Operations on the Eye.

There is, as the list of subjects indicates, some overlapping between these two parts, which, however, in giving the views of different minds upon the same subject rather enhances the value of the work to the ophthalmologist. But, we notice in the second part, in the Chapter on Operations, a certain amount of what appears to be needless repetition.

The optical portion is illustrated with many new and elaborate diagrams and reflects the exact and pains-taking work in this department that has characterized Philadelphia ophthalmologists. The work is one which can safely be commended to the ophthalmic surgeon, as of a special

interest in that it states the carefully considered views of its authors upon all subjects connected with this special branch; and, the practitioner not especially interested in in ophthalmology will find it a sound and valuable book of reference.

A DICTIONARY OF MEDICAL SCIENCE. By Robley Dunglison, M.D., LL.D., Edited by Richard J. Dunglison, A. M., M. D. Twenty-first edition, thoroughly revised, with the pronunciation, accentuation and derivation of the terms. Imperial octavo, 1181 pages. Philadelphia: Lea Brothers & Co., 1893.

The medical student of a few years ago, to whom Dunglison's dictionary served the purpose of a whole medical library, would scarcely recognize this latest edition, of what has been for sixty years, a high authority in medicine.

In its preparation, new subjects and terms have been added, as the preface informs us, to the number of more than forty-four thousand. These additions reflect the growth of medical literature and the extension of the interest of medical men into the new fields of bacteriology and chemistry.

The present edition gives for the first time, the pronunciation, including accentuation, of all the words defined in it. Among the tables that it is convenient to have for ready reference is a very complete one of "doses," given in both the apothecary's weights and measures, and according to the metric system. The paper and printing of the present edition are excellent, and the selection of type such as to favor rapid and easy reference to the word sought.

The volume, perhaps, rather exceeds the limits of convenient size for frequent or constant use; and the chief criticism to be offered as to the matter of the work is, that coming from a single editor, it sometimes fails to fully explain the nicer shades of meaning, which special terms are often intended to convey. As the number of words has grown too large for a single convenient volume (although this volume is still smaller than the standard dictionaries of the English language), so the mass of ideas which it has to convey has grown too vast for complete appreciation by any single mind. Still, in this matter of appreciation of special

terms, Dunglison's dictionary compares favorably with most of its recent rivals, and it would be rash to predict a time when it would cease to occupy the position it has so long occupied as a standard work of reference.

ESSENTIALS OF MINOR SURGERY, BANDAGING, AND VENEREAL DISEASES. By Edward Martin, A. M., M. D., Clinical Professor of Genito-Urinary Diseases, University of Pa. Philadelphia, W. B. Saunders, 1893.

The second edition of this little work differs from the first in containing a large proportion of new cuts, including a series from the American Text Book on Surgery, illustrating different forms of bandages. More than one-third of the work is devoted to bandaging; another third to such matters as Ligatures, Antiseptics, Drainage, Anesthetics, Fracture dressings, the Reduction of Luxations, etc., and the remainder to venereal diseases.

A number of antiseptic formulas are given, in some of which, probably the water used should be regarded as the most important ingredient.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the use of students and practitioners. By J. Nevins Hyde, A. M., M. D. New. (Third) edition. Octavo, 802 pages, with 9 plates, (3 colored) and 108 engravings. Philadelphia, Lea Brothers & Co., 1892.

This work in the ten years it has been before the profession, has already secured an acknowledged place in the literature of its subject. The third edition includes extensive alterations and additions. Thirty-five new diseases are described and some chapters rewritten, notably, that on tuberculosis. The series of illustrations is enriched by the addition of five plates and twenty-two wood cuts. The arrangement of matter and selection of type for headings are such as render the book as convenient, as it is reliable as a work of reference.

A feature that will be appreciated by the general reader is the introduction in the section on General Symptomatology of a list of the more important terms descriptive of skin lesions, as used by modern writers. This list occupies a couple of pages and one learns with gratitude, "A much larger list of obsolete adjectives, employed by older authors, is purposely omitted."

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SURGICAL SHOCK.[1]

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It is proposed in this communication to briefly consider the nature of surgical shock, and then to take up its treatment in detail. Shock is a condition of the body which is characterized by feebleness and rapidity of action of the heart, by the shallowness and frequency of respiration, by the lowering of the temperature of the body, and by the lessened activity of most of its functions. Intellection, digestion, and the secretion of urine, all are more or less in abeyance. It is probable, also, that the processes of assimilation and metabolism are profoundly interfered with. Perspiration is usually free, the body being covered with a cold clammy sweat. This, however, is due not to the increased activity of the sweat glands, but rather to an arrest of the activity of their cells, so that they simply act as strainers for the watery part of the blood to pass through them.

There can be no question that vitality is at a low ebb when shock exists, but there is some difference of opinion as to the real physiology or pathology involved. It is generally accepted that shock is a manifestation of paresis of the nervous system, its symptoms being due to lessened and irregular innervation. The question, as to whether the

[1] Read before the Philadelphia Obstetrical Society, Dec., 1893.

cerebro-spinal or the sympathetic system is most involved, is in dispute, and we do not propose, at this time, to attempt the elucidation of the question.

As a matter of fact, injury of the body in any of its parts can bring about shock. Injuries to certain parts of the body are especially liable to produce shock. These parts are the testicle and urethra, in the male, the ovary (in a lessened degree) in the female, and the abdominal viscera. Examples of shock from injury to these structures are common, and familiar to every one of experience. The familiar experiment of temporarily arresting the heart's action of the frog by a blow upon its abdomen, is a striking illustration.

Leaving aside the disputed points at issue, we wish to consider certain facts because of their very practical bearing upon the therapeutics of surgical shock. Among the most important symptoms of shock, is the lessened force and greater frequency of the heart's beat. The activity of the respiratory centre, also, is much lessened. The superficial blood-vessels are contracted, so that the surface of the body is pale and even blanched. The temperature of the body is lowered below the normal.

These facts are indisputable, and a recognition of the existence of these conditions forms the basis for rational therapeutics. Heat must be restored to the body; the heart and respiratory centres must be stimulated to do their work; and the superficial blood-vessels must be dilated, so that the circulation may be equalized, by affording a channel for the blood which has been retained in the great veins of the abdomen. The practice which I have followed, for some years, to accomplish these results will now be given.

Treatment of Shock.—The most important point in the treatment of shock is its *prevention.* Much can be done by prudent management, either to avoid shock or to lessen its degree. In selecting the date for operation a time should be chosen when the patient is in good condition. Almost always this is possible. It is only in emergency cases, and

when patients are suffering from a disease whose progress is steadily and rapidly downward that preparatory treatment will not put them in better condition. All patients requiring operation should receive careful study, and every therapeutic indication should be met before operation. Especially should the condition of the emunctories be looked after. The bowels, skin, and kidneys should be put in good condition by the use of baths, purgatives (especially broken doses of calomel and salines), and the abundant ingestion of water. The *morale* of the patient should not be neglected, as much can be done, by stimulating the courage of the timid and allaying the fears of the despondent, to make the patient look forward to the operation with courage and without dread. All these matters should be attended to prior to the day of operation.

The temperature of the room in which the operation is done should be high, from 75° to 85° F. In such a room the loss of heat from the patient by radiation is much less than when the operation is done in a cool room. Loss of heat from the patient can be lessened also by the manner in which she is dressed. It is best that she be well wrapped in blankets, and that as little of the skin surface be exposed to the air as the necessities of the particular operation permit. For the same reason the use of *wet* towels or gauze about the patient is to be deprecated. Evaporation from such wet material chills the patient.

Much can be done also by the proper administration of the anesthetic. Patients should not be drowned in ether. Enough only should be given to maintain anesthesia, unless to meet a certain indication, absolute relaxation is required. The prevention of hemorrhage, and the avoidance of rough handling of the patient, especially of the abdominal viscera, are matters of the greatest importance in preventing shock.

The careful surgeon gives due attention to each and all of these matters of detail, and no one so much appreciates their importance as he who has to deal constantly with grave operations. This applies especially to the abdominal

surgeon, because, in many cases, when he begins an operation the life of the patient depends upon its completion. He cannot do a part of it and postpone the rest to another day. In many of the long tedious operations which he is called upon to do, involving multiple visceral adhesions, the very life of the patient itself depends upon attention to every detail to prevent shock, so that he may have time to complete the operation *secundem artem.*

The *active treatment* of shock consists in supplying to the body heat which has been lost, in stimulating the heart to better work, in counteracting nervous depressions, and in overcoming irregular action, especially on the part of the vaso-motor nervous system, until re-action shall occur and the vitality of the patient can be sustained by alimentation. In describing the treatment of shock, I shall simply give an account of my own practice in the treatment of this condition.

If during the operation the patient begins to suffer from shock and there is reason to expect that this will increase, especially when the operation is not yet completed, I begin at once actively to treat it. One-fifteenth of a grain of sulphate of strychnia, and one-fiftieth of digitalin, are given hypodermically, and the dose of strychnia is repeated every fifteen minutes until some improvement is manifested in the pulse, or a fifth of a grain is given. If improvement does not manifest itself promptly, and especially if shock be profound, or if the patient has been markedly prostrated before the operation, a hundredth of a grain of atropia sulphate and two or three minims of a one per cent. aqueous solution of nitro-glycerine are given hypodermically. In still other cases, from three to six grains of citrate of caffein are administered in addition.

During this time hot-water bottles have been put about the patient, and if the operation is an abdominal section, at times warm water is poured into the peritoneal cavity. I have also employed hot beef-tea enemas, but, as a rule, an enema is not given, because it interferes with the comple-

tion of the operation, which is just as important as any one detail in the treatment of shock, if not more so. In fact, it is of the highest importance to complete the operation as rapidly as is consistent with safe work. The same is true of the dressing of the patient, who should be put to bed as promptly as is feasible. The bed should have been warmed, by having hot-water bottles in it, while the operation was in progress, and in all cases in which shock is a marked feature, the sheets should be removed and the patient placed between warm dry blankets.

At this stage the use of *whisky* by enema is of service, and at times it is proper to use whisky during the operation, especially if shock is not another name for too much ether. The use of whisky or alcohol in any shape is not good treatment for an overdose of ether. The best way to employ whisky, as a rule, is to give it by enema with hot beef-tea, about two ounces of whisky and six ounces of beef-tea. Dry friction with the hand or with a dry cloth, especially to the extremities if they are covered with clammy perspiration, will do much to bring about re-action, and also will lessen radiation from the surface by preventing evaporation of the perspiration.

Morphia in small doses, one-eighth of a grain or less, is also useful as a heart stimulant, and as an anodyne, if when the patient becomes conscious there is a marked pain. The morphia not only acts as a stimulant itself, but prevents depression, which would result from severe suffering. So much for the immediate treatment of shock.

Under ordinary circumstances, when the shock is marked and yet not so profound as to be alarming, within half an hour strychnia can be pushed to a fifth of a grain, atropia to a fiftieth, caffein to five grains or more, and digitalin to a twenty-fifth of a grain, or what is really better, tincture of digitalis to half a drachm, with the fiftieth of a grain of nitro-glycerine.

If the crisis passes, and yet the patient remains in a markedly depressed state, the question of treatment for the

ensuing twenty-four or forty-eight hours comes up. The use of external heat should be continued until the temperature of the body becomes normal, and even longer should the patient complain of chilliness. But the sheet anchors of safety are strychnia, digitalis, and whisky. In a marked case it is my habit to give the following order: To give hypodermically, sulphate of strychnia one-thirtieth of a grain, one hour; tincture of digitalis fifteen drops, with the one-fiftieth of a grain of nitro-glycerine, the next hour; three grains of citrate of caffein, the third hour; and an enema of whisky two ounces and beef-tea six ounces, the fourth hour. This order I have had carried out many times for twenty-four, forty-eight, and even seventy-two hours.

In the worst of cases, for its temporary effect, cocaine has been employed in addition to the above; also, small doses of morphia, if much pain, and especially if great restlessness were present. It is my experience that most patients will take a fifth of a grain of *strychnia* in twenty-four hours without manifesting symptoms of strychnism. I have not employed the heroic doses described by some writers, such as half a grain within two hours, but in a desperate case, watching it carefully, I should not hesitate to give repeated doses of one-fifteenth of a grain every half-hour for a short time, until some symptoms of irritation of the spinal cord appeared. We certainly have no more reliable exciter of the nervous and muscular system than strychnia, nor any drug which is more capable of maintaining its effect.

Digitalis is also a very reliable drug in the treatment of shock. It is capable of whipping up the heart to increased work, especially for a few days and until a sustained effect can be secured by alimentation. This is exactly what is required in the treatment of shock. Digitalis has, however, one effect which is undesirable. It causes a contraction of the arterioles, and thus increases arterial pressure, so that while it whips up the heart to do increased work, it also hinders the heart thorough the increase in arterial pressure;

hence it is wise, in the treatment of shock, to combine *digitalis with nitro-glycerin*, which overcomes this bad effect of digitalis. The combination is much more effective than either drug alone. *Caffein* is a pure heart stimulant, and can be administered freely without evil consequences. Alcohol used judiciously, and in not too large quantities, is one of our most important remedies. In shock following abdominal operations, it is best administered by enema combined with beef-tea, which is itself a stimulant. Later in the case champagne by the mouth is often of service, but it fills only a partial indication and is not to be compared in value with whisky when this can be ingested and retained.

The management of the *diet* in the treatment of shock is also important. Immediately after an operation accompanied by much shock, the stomach, as a rule, is not retentive; hence it is wise for a time in no case to administer much aliment of any description by mouth. Some hot, black coffee or hot beef-tea is as much as should be given. When the stomach becomes retentive, light, easily assimilable food should be employed, as beef-tea, broth, milk (preferably peptonized), egg-nog, punch, etc. These foods should be administered in small quantities frequently repeated. The question of alimentation in the treatment of shock following abdominal operations offers certain peculiar difficulties.

Under ordinary circumstances, when shock is not a special feature, it is the rule to administer no food to the patient, who has had a celiotomy, for from thirty-six to forty-eight hours after the operation. Then broths or beef-tea, from two drachms to one ounce, or two drachms of milk with one of lime water, are given every half-hour, and if retained the quantities are increased and the intervals lengthened, until about the fourth day after operation the patient is put upon liquid diet, the amount being regulated largely by the appetite. But in cases accompanied by marked shock, if the stomach proves retentive, it is wise to begin the administration of milk or beef-tea at the earliest

feasible time—the quantity being increased as rapidly as in the judgment of the surgeon the patient is able to digest and assimilate. In some critical cases lives will be saved by judicious alimentation, which would be lost were the usual rules, applicable in abdominal surgery, followed.

It may be questioned whether the term shock should be applied to conditions which persist for one, two, three, or more days. It is customary to consider that shock is of temporary duration, and that it ends either in the prompt death or in the recovery of the patient. But there are cases in which it is difficult to assign a name for the condition of patients, if it be not shock. I refer to those cases in which the patient exhibits marked shock after operation, and in which, although after a time the temperature of the body becomes normal and remains so, yet the patient's vitality remains at a very low ebb. The pulse continues rapid, small, and feeble. The cutaneous circulation is not restored, the surface of the body being cool and pale, and where no other symptoms are present except those of pronounced asthenia. This condition must be called shock. The condition persists until it is relieved by alimentation, as the nerve and heart stimulants, strychnia, digitalis, and even whisky, are not curatives.

I have had patients to die in this condition as long as a week after operation, without having manifested other symptoms than those of pure asthenia, and in which the post-mortem examination showed no cause of death. On the other hand, I have seen patients recover from this condition, improvement becoming manifest upon the third, fourth, or fifth day, when it had appeared that death was imminent from failure of the heart and respiratory centres. It is in such cases that judicious alimentation is of the highest importance.

In this class of cases the administration of *oxygen gas* by inhalation, is at times of service. All the vital functions are at such a low ebb, that any agent which is capable of improving the processes of metabolism is of value. My

experience with the use of oxygen for this purpose is limited to one case: which was one of marked shock following an operation for double pus tubes, in a woman reduced to the last extremity by hectic. She went to bed with a pulse of 180, with cool and blue skin, and every other evidence of the profoundest shock. The pulse did not fall below 145 for three days, near the close of which period there was every indication of early death from pure asthenia. The plan of treatment already detailed was followed out in her case, and in addition oxygen gas was administered during one day. It seemed to be of great benefit; at all events, she passed out of the shadow of death and made a good recovery.

SOME CONSIDERATIONS IN THE TREATMENT OF VALVULAR HEART-DISEASE.[1]

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Gentlemen :—This case presents certain features of interest that may be profitably enlarged upon. It is that of a girl, 20 years old, who has been employed as a child's nurse. She first presented herself rather more than three months ago, looking pallid and distressed, and complaining of a sense of oppression upon both sides of the chest that had existed for a month, and was the more pronounced upon the right side.

At first there was some cough, unattended, however, with expectoration. There had been considerable loss of flesh during the preceding two months. There was a history of acute articular rheumatism a year before, complicated by endocarditis. The appetite was much impaired, and the digestion was enfeebled. The bowels were regular. There was inability to sleep at night, on account of the dyspnea induced by the recumbent posture, with a sense of feverishness and sweating about the head. There was no edema

[1] Clinical lecture at the Polyclinic Hospital.

and no noteworthy derangement of micturition. The urine presented no abnormality. The menstrual period has twice been missed. The anemia was profound. The family history was good.

On physical examination the chest was seen to be somewhat chicken-breasted. The cardiac impulse was violent and diffuse, extending beyond the line of the left nipple. The area of cardiac percussion-dullness was appreciably increased. The action of the heart was rapid. Over a large area in the precordium both a systolic and a diastolic murmur could be heard. These were transmitted in the course of the great vessels, and could also be heard to the left of the vertebral column in the dorsal region. There was a deficiency in the pulmonary resonance at the apex of the left lung, with some roughening of the respiratory murmur upon both sides.

The girl was instructed to go to bed, to place herself at absolute rest, and to partake of a generous diet of easily assimilable character, the basis of which should be milk, eggs, and meat. Teaspoonful doses of the elixir of quinine, iron, and strychnine, to be taken thrice daily, well diluted after food, were prescribed.

In the course of a week we learned that the girl was improved in some respects, though the pain in the right side of the chest was still a source of annoyance. I now prescribed digitalis, giving two drams of the infusion, with five mimims of the tincture, thrice daily.

The next report brought word of decided improvement. After having continued the digitalis for two weeks, tincture of strophanthus, in ten-drop doses, was substituted, the administration likewise being continued for a period of about two weeks. With this alternation the treatment has thus been kept up for these three months and more, the girl always doing best, however, while under the influence of digitalis. She has been able to be out of bed, has spent two weeks in the country, and, as her mother states, "is quite another girl."

This case presents several interesting considerations. The diagnosis was clear. There was aortic obstruction and incompetency, *with ruptured compensation*. The origin of the lesion was to be ascribed to the attack of acute rheumatism of a year before. The practical question that presented itself was: What is the best that we can do for the case? Before attempting to answer this question, let me say a few words concerning the etiology of endocarditis.

I am inclined to believe that too much importance—perhaps I should say too exclusive an importance—is attached to the influence of rheumatism as a cause of endocarditis. I do not mean to imply that rheumatism is not a potent and a frequent cause of endocarditis; on the contrary, the etiologic factors upon which rheumatic polyarthritis depends often, very often indeed, also give rise to endocarditis; but we must not ignore the fact that many other conditions may likewise cause endocarditis. Accumulating experience points to the conclusion that any of the infectious diseases or any infectious condition—*e. g.*, measles, varicella, variola, scarlatina, enteric fever, influenza, gonorrhea, syphilis, septicemia—may be complicated by inflammation of the endocardium.

In each of these conditions, including acute rheumatism, it would appear that the endocardial lesion is but one manifestation of the action of a virus which is the ultimate etiologic element. For some of these a bacterial origin has been demonstrated; for others the demonstration is yet wanting. It is probable that in some instances the inflammation results from the lodgment of micro-organisms upon and within the delicate lining membrane of the heart, while in others the inflammation depends upon the presence in the circulation of certain toxic substances generated by bacterial activity. This distinction between infection and intoxication I believe to be an important one. Therapeutically the corresponding difference is that between a germicide and an antidote.

What shall we say of the *prognosis?* We can never re-

store the integrity of the valvular apparatus, but we can hope to re-establish the balance of the circulation, and to this end we shall direct our treatment. The outcome of the case depends largely upon its management. This heart differs from the normal heart in that it has lost its reserve or latent capability, and perhaps some of its essential capability as well. If the demands placed upon it do not exceed its functional ability, it will serve its purpose well, but should this limit be transgressed the organ will give out and fail. At the same time the nutrition of the heart and the general nutrition will demand consideration. With judicious management and in the absence of complicating conditions, I see no reason why this girl's life may not be prolonged for many years. It must, however, be borne in mind that she is less well able to withstand the effects of an attack of intercurrent disease, or to submit to the risks of pregnancy and childbirth than if her circulatory apparatus were intact.

Returning to the treatment of our case, what were the therapeutic indications? A failing left heart, beginning to dilate, with consequent pulmonary stasis. Mechanically and physiologically two alternatives offered—*i. e.*, either to stimulate the flagging power of the heart or to diminish its work. The choice was obvious. The demands upon the heart, as upon the whole system, were curtailed by rest in bed, with quiet, and the nutrition of the organ, as also of the whole body, was improved by the same measure and additionally by a generous assimilable diet. Having thus prepared the heart for an additional burden we were ready to use our cardiac stimulants.

In considering the therapeutic measures to be employed I have not spoken of the character or situation of the lesion. This omission is intended, for in our treatment we do not deal with the valvular defect, but with the condition of equilibrium, the *compensation*, as it is called. In your experience you will encounter cases of valvular disease that present no symptomatic evidence of the lesion, while in other cases you will be unable to discover auscultatory signs

to explain the distressing and alarming symptoms due to heart-failure from myocardial degeneration. Our object is to establish harmony between the action of the heart and the demands of the system, and our choice of measures or remedies is governed by the disparity between these that may exist. When a heart-tonic that is not merely a heart-stimulant, but at once a stimulant and a nutritive agent, is needed, digitalis is the best we have at our command. As a tolerance to the drug may be established, it is well to alternate its use with that of some other heart-tonic; and next to digitalis strophanthus is perhaps the most reliable. In this case strophanthus disappointed, perhaps because the dose was not large enough, but in an out-patient it was deemed wise not to prescribe large doses.

The girl is now taking digitalis. After two weeks we shall tentatively give her cereus grandiflorus, of the fluid extract 10 minims, cautiously increasing the dose to 30 minims, thrice daily. In administering digitalis I give both tincture and infusion together, believing that I thus most nearly obtain all of the soluble active principles of the crude drug.

SYNECHIA OF THE NASAL FOSSA.

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While synechiæ or bridges between the opposing surfaces of the nares, are generally regarded as of slight importance, or as mere pathological curiosities, they are worthy of much further study, as their presence often becomes a source of great annoyance, and even of serious moment. On reviewing the literature of the subject, one cannot fail to be struck by the small number of references made to it by the best writers, and even when it is alluded to, by the scarcity of details.

The term synechia in its broadest application, includes

all the varieties of adhesion, from a complete bony or membranous occlusion or atresia of the nasal openings, to the curious membranous sheets dividing the fossæ into compartments, and the thread-like bands of scar tissue bridging the interval between two opposite surfaces.

The occlusion of the posterior nares, and more rarely of the anterior, is an exceedingly attractive subject. In the present article, however, we shall confine our attention to the more familiar "bridges," but we wish here to point out the extreme danger to the new-born from total atresia of the chronæ, and urge that the possibility of such an occlusion be considered in infants unable to nurse, and that this condition be not passed over with an indifferent examination, and hasty diagnosis of "snuffles" or "marasmus."

Synechiæ exist in the nose, either as the result of adhesive inflammation, or, more rarely, of congenital mal-development. In the former class are to be placed those resulting from external violence, causing fracture of the septum; those following operations or cauterizations; and those arising from some ulcerative disease (such as membranous rhinitis, syphilis, etc.). Still others seem to develop idiopathically—*i. e.*, as a consequence of simple continued contact of two inflamed surfaces.

In structure these bands may be of bone, of which Mackenzie found but four examples in over 2,000 skulls; or they may be composed of cartilage;[1] or again of connective tissue, or of a combination of any of these. The bony union, as we have seen, is rare, and is usually to be looked upon as congenital,[2] associated, as it is apt to be, with asymmetry of other parts of the nose.

Seiler states in Burnett's *System of Diseases of the Ear, Nose and Throat,* Vol. II, page 30, that synechiæ "are

[1] Lennox Browne terms bony and cartilaginous synchiæ, *synostoses,* though Zuckerkandl, with more accuracy, limits this term to the bony bridge; in which case the term *synchondrosis* might be applied to the cartilaginous form, and *syndesmosis* to the purely connective-tissue synechia.

[2] See case reported by Watson, PHILADELPHIA POLYCLINIC, 1892, Vol. I p. 116.

either cartilage or bony, and but rarely membranous." Zuckerkandl, on the other hand, in his classic work, *Normale und Pathologische Anatomie der Nasenhoehle* describes at length 26 cases of synechiæ, comprising 38 bridges of which 36 were membranous and 2 bony. He makes no mention, however, of the cartilaginous variety. Randall, in over a dozen cases, reports none but membranous adhesions. The writer's experience coincides with these observations, in so far that of twelve cases, ten were membranous, and one a congenital bony bridge. The remaining case was seemingly cartilaginous.

These connecting bands may be formed in any portion of the nose, but are more frequent in the olfactory region, due, as Zuckerkandl has shown, to the proportionate proximity of the surfaces in that place. Thus he found but five cases in which the bridges were lower than the middle turbinal. These are the statistics of an anatomist, and were the olfactory region of the nose as freely accessible to the clinician's inspection, no doubt the number of synechiæ observed would be vastly increased. As it is, the great majority of the cases we observe are in the lower portion of the nares, and unite the inferior turbinal with the septum, or with the floor of the nasal fossa. Among my own twelve cases embracing sixteen bands, two only were above the inferior turbinal.

Not only do these adhesions cause obstruction to the current of air and prevent thorough cleansing of the nose, but they may also obstruct the full flow of tears from the nasal duct,[1] and if there is extensive adhesion between the middle turbinal and septum, markedly interfere with olfaction.

The following case was extremely instructive in affording opportunity for watching the mode of development of membranous synechiæ.

A. F., æt. 3. Complained of "stuffiness" of the nose and

[1] Epiphora of Intra-Nasal Origin, Freeman, THE PHILADELPHIA POLYCLINIC July, 1893. Case vi.

some fever for several days before being brought for treatment. Examination showed a well-marked case of membranous rhinitis, affecting both nares. Any attempt to remove the membrane forcibly on the left side was followed by free bleeding, so that the further treatment consisted in gentle flooding of the nares with unirritating antiseptic fluid, and insufflation of an antiseptic powder. After the disappearance of the membrane and contraction of the erectile tissues, quite extensive ulcerations of both septal and turbinal surfaces were found, and in several places union had taken place between these surfaces. Thus the left inferior was adherent to the septum by a bridge of connective tissue the thickness of a match, the right inferior turbinal and septum were bound together by a broad, fleshy band, and between the right middle turbinal and the septum stretched two mere threads of tissue.

The treatment of these cases is extremely simple if proper precautions are carried ont. Mere incision often suffices, but Randall has suggested the advisability of putting the nose in a thoroughly good condition by a course of treatment lasting, perhaps, several weeks. By this means the bands are thoroughly stretched by the contraction of the erectile tissue, and may often be broken through even with a probe, without danger of annoying hemorrhage, or of re-adhesion. This method has yielded most gratifying results, and is worthy of wider recognition.

In certain cases of more firm and extensive fusion, it is necessary to remove the bridges with trephine or biting forceps, and to pack the intervening space with antiseptic material.

Therapeutic Notes.

A New Astringent Antiseptic for Disease of the Skin.—T. N. Gottheil (*New York Medical Journal*) reports his experience in the use of sulphonaphthalate of aluminum, called aluminol. It may be applied mixed with talc and starch,

making the strength either 12 per cent. or 25 per cent. of aluminol. It may also be employed in collodion or in ointment. In acute inflammations of the skin, vesicular, impetiginous, and diffused eczemas, the general results were very satisfactory. He considers it superior to zinc and bismuth in these cases; being more uniform in result and more generally applicable. In chronic inflammations of the skin, the results were uniform and good; no absolute failures and no irritation, even when a 15 per cent. ointment was used. In deep-seated traumatic and infectious inflammations of the skin, the treatment was, on the whole, very satisfactory. In syphilitic disease of the skin, the results were not good. In parasitic and contagious diseases, it did not seem to possess any marked advantage.

Oil of Eucalyptus a Urinary Antiseptic.—Lydston (*Journal of Cutaneous and Genito-Urinary Diseases*), as a routine custom, gives after operations on the genito-urinary tract, 10 minims of the pure oil of eucalyptus, every two hours for two or three days, and thrice daily thereafter. And, where practicable, he prefers to give a few days' preparatory treatment with the eucalyptus before operating. Since using it thus, he has met with no post-operative annoyances, and is confident that credit is due to the drug. He reports cases in which its administration checked the chills and fever following such operations, and stopped the ammoniacal decomposition of the urine.

For Uterine Myoma.—Robinson (*New York Medical Journal*) to secure the atrophy of uterine myoma has resorted to ligating the uterine artery as it descends along the body of the uterus. The operation was followed by shrinking of the tumor to half its original size in three months; the stopping of profuse hemorrhage, and the relief of the general symptoms of the patient.

Salicin and Tincture of Iron for Acute Rheumatism.—Cleaveland (*Occidental Medical Times*) recommends first looking after the secretions, usually by giving one or two doses of calomel and the citrate of potash. Salicin is given in

doses of 20 to 30 grains every two hours, bringing the pain under control usually in twenty-four hours. As soon as the temperature reaches normal in the morning and remains below 100 F., tincture of the chloride of iron is given in doses of 20 drops every three hours, and the salicin is gradually reduced.

One very important point is perfect quiet, especially if any tendency exists to involvement of the heart. Not quiet of the body alone, but of the mind as well. The diet is mostly liquid. The appetite for solid food is generally prompt in returning and often requires restraining. When a subsequent attack of the acute rheumatism is threatened, he has found the tincture of chloride of iron the most effectual prophylactic.

Antipyrin in Optic Nerve Atrophy.—Valude (*Annales d'Oculistique*) recommends the hypodermic injection of antipyrin in the treatment of certain forms of atrophy of the optic nerve, particularly those which are secondary to an ascending or a descending neuritis, believing that it has a favorable action on the peripheral vaso-motor system. He uses a solution of 1 gramme of antipyrin to 2 grammes of distilled water, to which he adds a little cocaine, and administers every two days 1 gramme, then 2 grammes—that is, 2 or 4 grammes of the solution—by injection.

Current Literature.

Movable Kidney.—Henry Morris in the Cavendish Lecture on Some Changes in Surgical Opinion regarding the Disease of the Urinary Organs (*The Lancet*) says: Floating or movable kidney is an entity about which the most divergent views have been and still are held. A few years ago, it was gravely asserted by a distinguished surgeon that movable kidney was a myth; that the literature on the subject was based not on post mortem experience, but on clinical impressions which were fallacious; that the cases of

supposed mobile kidney were in reality tumors of other organs. Many, too, consider that the wearing of the belt is all that is requisite to relieve what little inconvenience is caused; that nephrorraphy ought never to be performed, it never succeeds.

On the other hand, the opinion is held that movable kidney is an everyday experience in practice. Doctor Linder declares that this condition is the most frequent anomaly in the female; that one woman out of every five or six is the subject of it.

As to the severity of the symptoms excited by movable kidney and the relief afforded by nephrorraphy, no one who has witnessed the severest form of renal colic, the great general disturbance of health, and the nervous anxiety caused by the feeling of dragging or of something dropping from the loin to the groin, all removed by merely stitching the kidney to the parieties of the loin—can any longer doubt either the reality of the suffering or the benefit derived from the operation. I have known one case in which the sufferings were so great that chloroform had to be administered on many occasions for hours in succession before she was relieved by nephrorraphy; and another instance in which the patient experienced so much benefit from the operation that she had the other, which was also movable, treated in the same way, and with an equally satisfactory result. The curative effects of the operation are most gratifying if the sutures are made to pass into the kidney substance and the loose fibro-cellular capsule is shortened and stitched also to the muscles and fascia of the loin. M. Tuffier recently stated at the Surgical Congress in Paris, when speaking of the distant results of renal surgery, that in every case of nephrorraphy the result was perfect when the operation was clearly indicated.

Though the patient's life is never directly threatened by the mobility, it is so indirectly through the changes wrought on the kidney by the interference with the patency of its ureter and by compression of its blood vessels and nerves,

so that when discussing the treatment for movable kidney it ought not to be forgotten that such an organ, like a kidney which is irritated by a calculus, runs the risk of being destroyed by hydro-nephrotic or suppurative changes. To obviate this risk as well as to remove a cause of suffering and bad health, nephrorraphy should be performed before these destructive processes have been allowed time to develop. This ought to be pointed out when recommending an operation either for renal calculus or for movable kidney, and I feel sure when the danger is realized by the profession it will be to the great advantage of our patients. It is often stated that a well adapted belt is all that is requisite for movable kidney. I have not found it so. Belts, pads, and trusses of all kinds are very unsatisfactory for this condition. They do not often effect any good; they much more often aggravate the suffering when not applied by the surgeon or an intelligent nurse. The proper application of a kidney belt and pad, like the proper application of a truss for hernia, requires that the viscus should be in place. A patient can readily reduce his rupture, but it is not so with the movable kidney; it is neither so easily reduced nor so easily retained in position after reduction, and patients often find that they suffer more with the belt on than off, and this is owing to its being applied over the unreduced kidney.

Immunity and Cure of Infectious Diseases.—Dr. Victor C. Vaughan (*Medical News*) believes there must be three factors in the production of immunity in an animal naturally susceptible. First there must be an inciting or immunizing substance introduced into the body. These substances which induce immunity he believes belong to the class of nucleins. They have the property, when introduced into the bodies of certain animals, in certain amounts and under certain conditions, of so stimulating the activity of certain organs in the animal that these organs produce and supply to the blood an antidote to the substance introduced.

Secondly, the organs whose activity is stimulated by

these immunizing agents are those, such as the spleen, thyroid gland, and bone marrow, which manufacture nucleins.

Thirdly, the antidotal substance is a neuclein. The kind and amount of nuclein formed will depend upon the nature of the inciting agent and the condition of the organ or organs acted upon.

The word "nuclein" is used in a broad sense, meaning that part of the cell which under normal conditions is endowed with the capability of growth and reproduction, which assimilates other proteids and endows these assimilated substances with its own properties. It is that part of the cell which gives it its individuality.

An organ that has once been stimulated by a given excitant responds more quickly the second time to the same excitant, provided that the interval of time is not too great. This explains the gradual loss of acquired immunity.

Again, an organ that is stimulated by one excitant may not be responsive to another, and this accounts for the fact that an animal rendered immune to one disease remains susceptible to another.

The poison that is introduced is destroyed by the activity of certain cells. In order, however, to accomplish this destruction, it is probably not necessary that the poison should come in contact with the cells. On this theory the production of immunity consists in a special education of certain cells, and artificial immunity becomes essentially cellular.

The difference between immunity and tolerance, he conceives to be this. In the former the cells of certain organs become aggressive; a special function is developed; the poison introduced is destroyed. In tolerance, there is no aggressive action on the part of any organ; there is no development of special function; the poison introduced is not destroyed; it only fails to kill.

He believes there are essential differences between the principles of immunity and those of cure. The substances with which immunity is induced are not applicable in the

production of a cure. They are already in the body and have failed to stimulate the nuclein forming cells in such a manner as to cause their own destruction.

To cure, we must introduce some germicide formed by other cells, or we must employ other agencies for the purpose of stimulating the nuclein forming cells.

The germicides from which we hope for good results in treatment must be of cellular origin. No known chemical substance can be introduced into the animal body in sufficient quantity to effect a cure by its germicidal action without harm. Time after time the discovery of a non-poisonous, powerful germicide has been announced, but experience has invariably shown either that the substance is poisonous or that it is not germicidal.

Epileptic Insanity.—Dr. James H. McBride (*Journal of Insanity and Nervous Diseases*) summarizes the important features of Epileptic Insanity as follows:

The forms or varieties of epilepsy liable to lead to insanity are the ordinary, grand mal, mental epilepsy, and nocturnal epilepsy.

Nocturnal epilepsy and mental or cerebral epilepsy produce more rapid mental deterioration than other varieties.

Epileptic insanity may precede, take the place of, or follow a fit. It may be a quiet type of insanity, or the most violent mania.

The mania may occur only once in the course of the life of an epileptic who has the disease from childhood.

Epileptic insanity is a most dangerous form of mental disorder as the subject of it is suspicious, irritable, and impulsive, being conspicuously weakened in self-control.

There is usually loss of memory of events of the insane period, though occasionally there may be a confused recollection. That a condition of mental automatism may follow an epileptic fit which may last for days, during which a person may transact business, buy a ticket and travel distances, converse intelligently, and yet afterwards have

absolutely no recollection of anything that occurred during the period.

The epileptic attacks may occur during sleep and not during the waking state, and that this nocturnal epilepsy is apt to be associated with violence and ultimate mental weakness.

That insanity is more apt to be associated with the mild fits, called cerebral or mental epilepsy, than with those in which the convulsions are violent. It must not, therefore, be thought that the condition is a trifling one and the danger of mental disorder slight because the fits are apparently mild and of short duration.

Book Notices.

THE PRINCIPLES AND PRACTICE OF SURGERY. By JOHN ASHHURST, JR., M. D., New (6th) edition, enlarged and thoroughly revised; octavo, 1161 pages, with 656 engravings and a colored plate. Philadelphia: Lea Brothers & Co., 1893.

This latest edition of Ashhurst's Surgery will continue to sustain the reputation which this standard work has for many years enjoyed. The chapter on Surgical Bacteriology by Professor Nancrede, formerly of the Philadelphia Polyclinic, and now of the University of Michigan, is new. It presents in the space of ten pages an excellent account of the important pathogenic bacteria, their relations to inflammation, and the most valuable information as to microorganisms in general. The chapters on Diseases of the Eye and Ear have been revised by Professors de Schweinitz and Randall, which will give them special interest to students of the Philadelphia Polyclinic, and readers of its journal.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. PLAYFAIR, M. D., F. R. C. P. Sixth American from the eighth English edition. Edited, with additions, by ROBERT P. HARRIS, M. D. Octavo, 697 pages, with 217 engravings and 5 plates. Philadelphia: Lea Brothers & Co., 1893.

This work reached its eighth edition after seventeen years of wide usefulness. This edition shows very essential changes, with regard especially to extra-uterine pregnancy,

puerperal septicemia, Cæsarean section, and symphyseotomy. The editor, reviewing the results of this last operation, says, "symphyseotomy ought to be less dangerous than the Cæsarean section has been in our country, and nothing short of this should satisfy a proposition to substitute it for craniotomy infanticide. It is a less forminable operation and women make less objection to it than they do to the abdominal delivery. It requires less skill in its execution, and is not so shocking in its effects upon the nerves of the accoucheur."

A HAND-BOOK OF OPHTHALMIC SCIENCE AND PRACTICE. By HENRY E. JULER, F. R. C. S. Second edition. Octavo, pages 565, with 17 colored plates and 201 wood-cuts. Philadelphia: Lea Brothers & Co., 1893.

The changes made in the preparation of this work for its second edition have not been radical, but have been in the direction of improvement; except, possibly where photomicrographs have replaced diagramatic illustrations of histological structure. Many of the chromo-lithographic plates that constituted a notable feature of the work have been essentially improved, and, in general the typographical execution and press-work are better than in the former edition.

MINOR SURGERY AND BANDAGING. By HENRY R. WHARTON, M. D., Demonstrator of Surgery and Lecturer on Surgical Diseases of Children in the University of Pennsylvania; Surgeon to the Presbyterian, Methodist, and Children's Hospitals. Second edition, thoroughly revised and enlarged, with 416 illustrations. Page 529 8*. Philadelphia: Lea Brothers & Co., 1893.

The prompt demand for a second edition of this excellent work but fulfils the expectations aroused by the first. It now comes to us largely rewritten in those departments where almost daily advances are taking place—notably antisepsis and the treatment of wounds—and with the addition of thirty-two pages of text and thirteen illustrations. The general arrangement and plan of the work which has given such universal satisfaction remains unchanged, while the mechanical portion is fully up to the high standard of the preceding edition. T. S. K. M.

ABSCESS, 1, 22, 45
Abdominal, 2, 4, 130, 146, 244
Academy of Surgery, 138, 271
Adams, J. Howe, 122
Adams, J. S., 135
Addison's disease, 48
Adler, L. H., Jr., 29
Agnew D. Hayes, 122
Air passages, 53, 69
Alleman, Frank, 268
Allis, O. H., 241
Aluminol, 356
Ameba coli, 58
Amputation, 138
Anal disease, 29
Anemia, 37, 112
Anesthetics, 101
Angina pectoris, 300
Animal extracts, 309
Annual of Medical Sciences, 278
Antiseptic, 98, 167, 300, 356, 357
Apoplexy, 127
Appendictis, 146, 279
Arsenic, 300
Aseptic dressing, 98
Ashhurst, John, 363
Atropin, 61, 83, 117

BAER, B. F., 1
Baldwin, Kate W., 165
Baldy, J. M., 130, 174, 244
Bandages, 31, 41, 78, 364
Barker, T. R., 167
Bartholow, Roberts, 247
Batton, John A., 111
Bell, James H., 60
Berry, Geo. A., 186
Bicycle, 214
Bloom, Homer C., 61, 331
Book Notices, 28, 60, 90, 122, 153, 183, 216, 247, 277, 306, 338, 363
Brain itch, 121
Bremer, L., 121
Brinkmann, L., 98
Burns, 19, 256
Burr, Chas. W., 46

CALCULUS, hepatic, 123
Calomel, 19
Cancer, 149, 174, 277
Cantrell, J. Abbot, 14
Cardiac disease, 48, 161, 179, 322
Carpenter, H. B., 290
Carpenter, J. T., Jr., 19
Cautery, 43
Cerebral disease, 121, 127, 263
Cerna, David, 90
Chancre, 249
Children's diseases, 37, 253, 263, 279
Cholecystotomy, 123
Cholera, 116, 247, 277
Cholesteatoma, 135
Cocaine, 83
Coccyx, 271
Codein, 54
Cohen, S. Solis, 66, 170, 219, 306, 309
Cold bathings, 24
Coley, W. B., 149
Conjunctivitis, 19, 239
Consumption, 295
Convergent squint, 155
Corneal disease, 40, 75
County Medical Society, 167, 206, 241
Crothers, T. D., 118
Current Literature, 23, 53, 84, 179, 214, 275, 301, 333, 358

DAVIS, Edward P., 101, 270
Deaver, John B., 123, 138, 279
Dictionaries, 30, 339
Diet, 219
Dilate the pupils, 83
Diseases of children, 37, 253, 263, 279
Diseases of the skin, 14, 153, 249, 287, 340
Diseases of women, 1, 58, 61, 85, 101, 130, 147, 165, 174, 180, 187, 207, 233, 244, 270, 326, 363
Dock, Geo., 84
Drainage, 6
Dysentery, 58
Dyspepsia, 219

EAR Disease, 52, 135, 171
Eclampsia, 161
Einhorn, Max, 54
Electrolysis, 153
Electro-therapeutics, 207
Ellis, P. T., 58
Emphysema, 105
Emmenagogue, 331
Enucleation of eye, 91
Epilepsy, 362
Epiphora, 201
Erk, Theodore, 127
Erysipelas, 51, 149
Eshner, A. A., 349
Eucalyptus, 357
Everehart, Edgar, 55
Excision of ossicles, 52
Exophthalmic goitre, 46
Eye diseases, 27, 91, 117, 186, 301

FAVORITE Formulas, 83, 112, 268
Feeding children, 37
Fever, malarial, 66
Fibroids, 303
Fistula in ano, 29

Flick, L. F., 337
Floating kidney. 358
Foreign bodies in air-passages, 53
Formulas, 83, 112, 161, 231, 239, 268
Foster, F. P., 30
Fractures, 141
Freeman, W. J., 201, 353

GALL Bladder, 123
Gastrodiaphany, 54
Genital tuberculosis, 87
Gibney, V. P., 333
Goitre exophthalmic, 46
Gonorrhœa, 332
Griffith, J. P. C., 29, 30
Graves' disease, 46

HANSELL, H. F., 60
Hare, H. A., 56
Harris, R. P., 363
Heart disease, 48, 161, 179, 180, 218, 349
Hemorrhage, 8, 61, 146
Hemorrhoids, 8
Herter, C. A., 275
Hip-joint amputation, 138
Holmes, O. W., 275
Homatropin, 83
Howard, W T , 58, 179
Hyde, J. N., 340
Hypodermatic, 66, 300
Hypopyon, 42
Hysterectomy, 177, 303
Hysterical respiration, 115

ICHTHYOL, 51
Idiosyncracy, 23
Iliocolostomy, 272
Immunity, 360
Incontinence of urine, 290
Inebriety, 118, 127
Infant foods, 55
Ingrowing toe nail, 111
Insanity, 49, 263, 362
Iodides, 19
Iodoform injections, 119
Irrigation in labor, 167
Itching, 121

JACKSON, Edward, 30, 83, 91, 239
Jeffries, J. A., 27
Joint injuries, 195
Juler, H. E., 364

KEEN, W. W., 271
Kellogg, J. H., 214
Kelly, Howard, 245
Kennelly, A. E., 57
Keratitis, 40
Keratosis, 135
Kidney disease, 301, 358
Knee-joint, 333
Kraft-Ebbing, 216

LABOR, 101, 167
Lachrymal disease, 45, 201, 318
Laparotomy, 2, 130
Lee, Benjamin, 195
Leucoma, corneal, 75
License to practice, 25
Liver disease, 287
Lydston, G. F., 182

MACCOY, Alex. W., 69
McBride, J. H., 362
Macula, 75
Maddox, E. E., 308
Magnetism, 57
Malarial fever, 66, 299, 331
Martin, Edward, 340
Massage, 195
Massey, G. Betton, 207
Mastoid disease, 22, 210
Materia medica, 216
Mattison, J. B., 54
Mayo, Florence, 75
Mays, Thos. J., 295, 322
Medical examiners, 273
Medical jurisprudence, 118
Medical societies, 137, 138, 167, 206, 241, 270
Metatarsalgia, 143
Micro-technique, 26
Midwifery, 363
Milk foods, 55
Mills, Chas. K., 127, 263
Mitchell, S. Weir, 115
Morris, Henry, 358
Morton, T. S. K., 29, 51, 143, 256
Mouth operations, 147
Moveable kidney, 358
Mydriatics, 83

NAIL, Ingrowing, 111
Nasal disease, 201
Nebula, corneal, 75
New remedies, 90
New Jersey examiners, 273
Nipples, sore, 58
Noble, Chas. P., 176, 246, 326, 341
Norris, Wm. F., 338
Notes, 218, 273, 308

OBSTETRICAL Society, 147, 174, 244, 270
Oliver, Chas. A., 338
Olmacher, A. P., 26
Ophthalmology, 27, 60, 307, 338, 364
Optic atrophy, 358
Orthopedic Association, 154
Osler, Wm., 25
Ovariotomy, 1, 147, 173, 270, 271

PARALYSIS, 27, 89
Parturition, 101
Pelvic disease, 1

Pennsylvania State Medical Society, 278
Pepper, Wm., 113, 183
Perforation of cornea, 40
Peroxide of hydrogen, 268
Peterson, Fred., 57
Philadelphia societies, 137, 138, 167. 206, 241, 270
Physiology of air-passages, 69
Piles, 9
Plaster bandages. 31, 78
Playfair, W. S., 363
Pleurisy, 84
Pneumonia, 56, 113
Potter, W. W., 180
Practice of medicine, 25, 28, 183
Pregnancy, 130, 187
Price, J., 301
Price, M., 147
Prickly heat, 151
Prisms, 308
Prolapse of uterus, 233
Prostatic hypertrophy, 182
Psoriasis, 14
Psychopathia sexualis, 216
Pubotomy, 85
Puerperal eclampsia, 165
Puerperal sepsis, 180, 247
Pulmonary disease, 53, 105, 113, 115, 244, 295, 322
Pupil dilators, 83
Pus tubes, 247
Pyleonephritis, 301
Pye Smith, P. H., 153

QUARANTINE, 59
Quinin, 23, 66

RANDALL, B. Alex., 22, 52, 211
Rectal disease, 8, 29
Rest, 39, 295
Rheumatism 357
Risley, S. D., 155
Roberts, John B., 8
Roussel, A. E., 153

SALYCILATES, 84
Sarcoma, 149
Schneideman, T. B., 318
Schweinitz, Geo. E. de, 40, 75
Sequels of corneal ulcer, 75
Shimer, Wm. S., 228
Shock, 341
Shoemaker, J. V., 216
Skiascope, 329
Skin diseases, 14, 153, 206, 249, 287, 340
Slocum, H. A., 187
Smith, Allen J., 89
Sore nipples, 58
Squint, 155
Staphyloma, 75
Stevens, A. A., 28
Stone in gall bladder, 123
Strabismus, 155
Stricture, 153
Surgical shock, 341
Surgery, 340, 363, 364
Suturing tendons, 260
Sympathetic ophthalmia, 93
Symphisiotomy, 85
Synechia, 75, 353
Syphilis, 14, 206, 249, 287

TALLEY, F. W., 233
Taylor, J. Madison, 37, 253
Taylor, Wm. J., 141, 210
Tendons, sutured, 260
Therapeutic Notes, 299, 331, 356
Therapeutics, 216, 306
Thomas, C. M., 117
Thorington, James, 329
Thyroid, 46, 141, 170, 309
Tinnitus, 52
Toe-nail, ingrowing, 111
Tonsil, 228
Tremor, 47
Trifacial neuralgia, 139
Tuberculosis, 87, 119, 331, 333, 337
Tull, M. G., 209
Tumors, 138, 139, 149
Tussey, A. E., 161
Tympanic disease, 171
Typhoid fever, 24
Tyson, James, 180

ULCER of cornea, 40, 43, 75
Ureters, 245
Urethritis, 332
Uric acid, 275, 315
Urine, incontinence of, 290
Uterine disease, 61, 87, 174, 233, 303, 357

VAGINAL, blueness of pregnancy, 187
Van Harlingen, A., 154, 249, 287
Vaughan, V. C., 360
Vertigo, 52
Visiting list, 30
Vitiligo, 49
Vought, Walter, 277

WASTING diseases, 37
Westmoreland, W. F., 53
Wharton, H. R., 364
Williams, J. W., 87
Wilson, James C., 24
Wilson, H. A., 31, 78, 260
Wood, H. C., 23
Woolsey, Geo., 119
Word blindness, 305
Wounds of the eye, 91

YEO, J. Burney, 306

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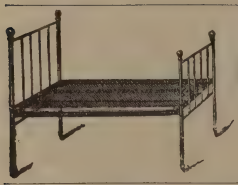

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HOURS.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.	SATURDAY.
9 to 10.	Dr. Thorington. *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*	Prof. Jackson.1 *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*	Prof. Jackson.1 *Ophthalmology.*	Dr. Carpenter. *Ophthalmology.*
10 to 11.	Adj. Prof. Adler. *Rectal Diseases.*	Prof. Taylor. *Children.*	Prof. Baldy. *Gynæcology.*	Prof. Baldy. *Gynæcology.*		Prof. Taylor. *Children.*
11 to 12.	Prof. Morton. *Surgery.*	Prof. Steinbach. *Surgery.*	Prof. Davis. *Obstetrics.*	Prof. Davis. *Obstetrics.*	Prof. Morton *Surgery*	Prof. Steinbach. *Surgery.*
12 to 12.45.	Prof. Cohen. *Medicine.*	Prof. Griffith.2 *Medicine.*	Prof. Cohen. *Medicine.*	Prof. Griffith. *Medicine.*	Prof. Cohen. *Medicine.*	Prof. Griffith. *Medicine.*
12.45 to 1.15.	Intermission for Luncheon.					
1.15 to 2.	Prof. Baer. *Gynæcology.*	Prof. Randall. *Otology.*	Adj. Prof. Seiss. *Otology.*	Prof. Randall. *Otology.*	Prof. Baer. *Gynæcology.*	Prof. Randall. *Otology.*
2 to 3.	Prof. Watson. *Laryngology.*	Prof. MacCoy. *Laryngology.*	Prof. Wilson. *Orthopædics.*	Prof. Watson. *Laryngology.*	Prof. Wilson. *Orthopædics.*	Prof. Lee. *Orthopædics.*
3 to 4.	Dr. Bassette. *Neurology.*	Prof. Mays. *Chest.*	Prof. Mills. *Neurology.*	Prof. Mays. *Chest.*	Prof. Mills. *Neurology.*	Prof. Mays. *Chest.*
4 to 5.	Prof. Jackson. *Ophthalmology.*	Prof. de Schweinitz. *Ophthalmology.*	Prof. Simes. *Genito-Urinary.*	Prof. Risley. *Ophthalmology.*	Adj. Prof. Schneideman *Ophthalmology.*	Prof. Neilson. *Genito-Urinary.*
5 to 6.	Prof. Roberts. *Surgery.*	Prof. Slocum. *Gynæcology.*	Adj. Prof. Bower. *Surgery.*	Prof. Deaver. *Surgery.*	Prof. Slocum. *Gynæcology.*	Dr. Brinkman. *Surgery.*

1 Systematic Lectures. 2 From Feb. to Aug. Dr. Carpenter will substitute on Tuesdays during Prof. Griffith's term at Howard Hospital.

EYE. SPECIAL SCHEDULE FOR DISEASES OF THE EYE, EAR, NOSE AND THROAT.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
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11 to 12.		Dr. Zentmayer. *Children's Hospital.*			Dr. Zentmayer. *Children's Hospital.*	
2 to 4.	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*	Prof. Risley. *Wills Hospital.*	Prof. Jackson. *Wills Hospital.*
4 to 5.	Prof. Jackson. *Polyclinic.*	Prof. de Schweinitz. *Polyclinic.*	Adj. Prof. Schneideman *Polyclinic.*	Prof. Risley. *Polyclinic.*	Adj. Prof. Schneideman *Polyclinic.*	Adj. Prof. Phillips. *Polyclinic.*
EAR.						
1 to 2.	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*	Adj. Prof. Seiss. *Polyclinic.*	Prof. Randall. *Polyclinic.*
2 to 3.		Prof. Randall. *Children's Hospital.*		Prof. Randall. *Children's Hospital.*		Prof. Randall. *Children's Hospital.*
NOSE AND THROAT.						
11 to 12.	Dr. Freeman. *Children's Hospital.*		Prof. Watson.3 *Howard Hospt.*	Dr. Freeman. *Children's Hospital.*		Prof. Watson.3 *Howard Hospt.*
2 to 3.	Prof. Watson. *Polyclinic.*	Prof. MacCoy.4 *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*	Prof. Watson. *Polyclinic.*
3 to 4.	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*	Dr. Freeman. *Polyclinic.*	Dr. Cleveland. *Polyclinic.*

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CONTENTS.

ORIGINAL ARTICLES.

CHARLES P. NOBLE,
Surgical Shock. 341

AUGUSTUS A. ESHNER,
Some Considerations in the Treatment of Valvular Heart Disease. . 349

WALTER J. FREEMAN,
Synechia of the Nasal Fossa. . . 353

THERAPEUTIC NOTES.

Aluminol for Diseases of the Skin. 356
Eucalyptus, a Urinary Antiseptic. . 357
For Uterine Myoma. 357
Rheumatism, Salicin and Tincture of Iron. 357
Optic Atrophy, Antipyrin. . . . 358

CURRENT LITERATURE.

Movable Kidney. Henry Morris. . 358
Immunity from Infectious Diseases. 360
Epileptic Insanity. J. H. McBride. 362

BOOK NOTICES.

Principles and Practice of Surgery. John Ashhurst. 363
Science and Practice of Midwifery. W. S. Playfair. 363
Ophthalmic Science and Practice. Henry E. Juler. 364
Minor Surgery and Bandaging. H. R. Wharton. 364

INDEX. 365

ADVERTISEMENTS, page ii of cover.

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CLASSIFIED INDEX OF ADVERTISEMENTS.

ELECTRICAL APPARATUS.

Otto Flemming. iii

HOSPITAL SUPPLIES.

Wm. F. Bernstein. iii

OPTICIANS.

Philadelphia Optical Co. v

PHARMACEUTICAL PREPARATIONS.

Fehr's Compound Talcum Baby Powder. . . v

Henry K. Wampole & Co. iv

Valentine H. Smith Co. iv

POST-GRADUATE INSTRUCTION.

Faculty. i

Special Week on Diseases of Heart and Lungs iii cover

SANATORIUMS.

G. Betton Massey, M. D. iv

SURGICAL INSTRUMENTS.

William V. Willis. v

WINES AND LIQUORS.

Henry H. Netter & Co. iv